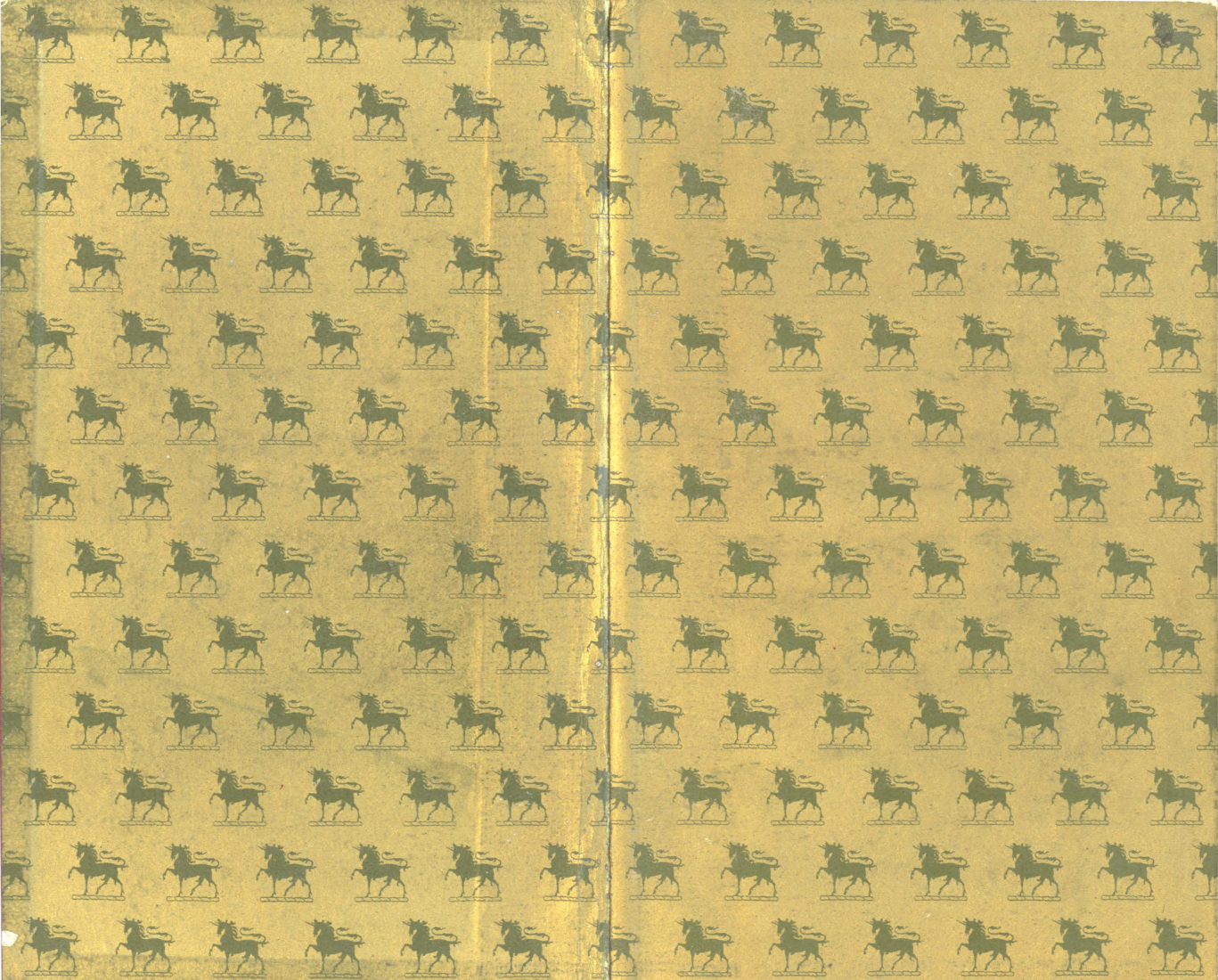
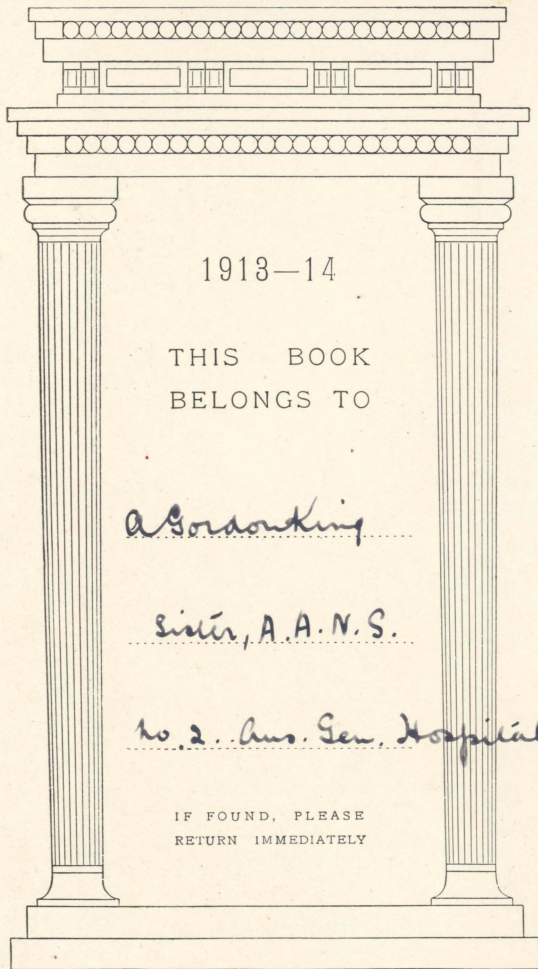


WELLCOME'S
PROFESSIONAL
Nurse's Diary
1913-14

BURROUGHS WELLCOME & CO.





SECTIONAL INDEX

THE ART OF HEALING IN PRIMITIVE GREECE

In the early days of primitive Greece, certain dream-oracles acquired medical fame through cures divinely revealed to those who consulted them.

To their holy shrines came those afflicted with disease, to receive, as they slept, instruction for the healing of their maladies.

Near the shrine gushed the spring whose waters were used to purify those whom the oracles had cured.

In the grotto pool the patient cast his votive offering to the deity—sometimes a gold or silver cup, at other times an image in clay of the member which had been healed.

By the shrine stood figures of the healing deities whom the sick might supplicate for aid.

Chief of these was Apollo, whose grace of form symbolised the highest Greek ideals of health and beauty.

Accounted by the Greeks as the god of pestilence and death, he was also one of their earliest deities associated with healing.

Famed as the father of Asklepios, Apollo, according to the legends, committed his son to the care of Chiron, the Centaur, who revealed to him, on Mount Pelion, the secrets of the medical art.

Asklepios probably lived about the thirteenth century B.C., and, owing to his special skill in healing, was afterwards deified, and became the Greek god of Medicine.

HISTORICAL EXHIBITION OF RARE AND CURIOUS OBJECTS RELATING TO MEDICINE, CHEMISTRY, PHARMACY AND THE ALLIED SCIENCES, LONDON, 1913

I have been strongly urged, and have decided, to hold the Historical Medical Exhibition, which has been in process of organisation for some years past, at the same time as the International Medical Congress, which is due to take place in London in August, 1913. Further particulars will be duly announced.

This decision will, I have no doubt, suit the convenience of the many medical practitioners from all parts of the world who will be visiting England on the occasion of the Congress.

The success of the Historical Medical Exhibition will depend largely upon the co-operation of those interested in the subject with which it deals, and I again appeal, therefore, to all who possess objects of historical medical interest, to render their kind assistance by lending them to me, so that the Exhibition may be thoroughly representative. A syllabus containing full particulars will be forwarded on request.

HENRY S. WELLCOME

SNOW HILL BUILDINGS
LONDON



APOLLO

SON OF ZEUS AND FATHER OF ASKLEPIOS

The earliest known Greek Deity associated with medicine. He was regarded as the God of Pestilence, and believed to have power to restore life to the dead.

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WELLCOME'S

PROFESSIONAL
NURSE'S DIARY

[AUSTRALASIAN EDITION]

1913—14

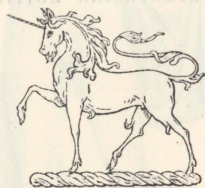
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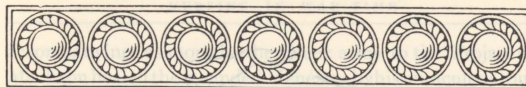
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NURSING IN WAR-TIME

WHILE recognising the immense impetus which religion and science have given to the art and practice of nursing, it should not be forgotten that help has come also from another and very different source—namely, war.

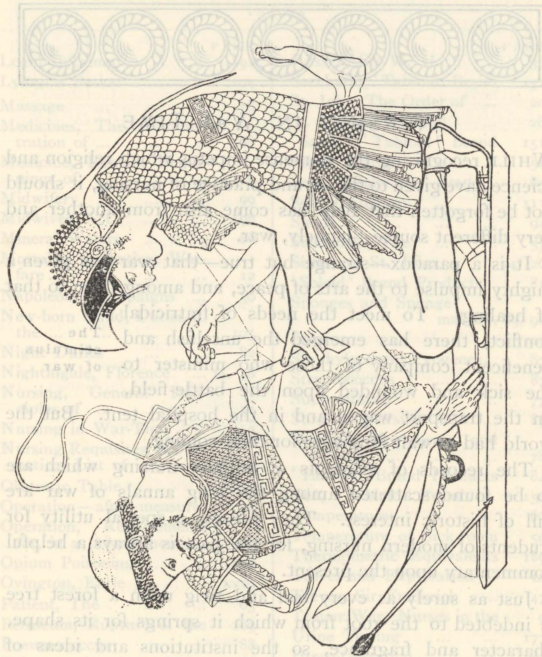
It is a paradox—strange but true—that war has given a mighty impulse to the arts of peace, and among them to that of healing. To meet the needs of fratricidal conflict, there has emerged the unselfish and beneficent company of those who minister to the sick and wounded upon the battle-field, on the transport wagon and in the hospital tent. But the world had to wait long ages for their coming.

The records of attempts at military nursing which are to be found scattered among the long annals of war are full of historic interest. They possess a special utility for students of modern nursing, for the past is always a helpful commentary upon the present.

Just as surely as every leaf and twig upon a forest tree is indebted to the root from which it springs for its shape, character and fragrance, so the institutions and ideas of to-day have grown up out of beginnings which lie deep in the past. It is only by the study of what *has* been done that we can gain any just notion of what *is* being done, or make any confident forecast of the tasks which belong to the as yet untrodden future.

In the beautiful and symbolic mythology of antient Greece, the sun-god Apollo was regarded as the deity of both pestilence and healing; life and death were in his hands. His son Asklepios became the father of medicine, being imbued with all the wisdom of the Centaurs.

Machaon and Podalirius, the two sons of the wise and mighty Asklepios, are represented in the Homeric legends



GRECIAN HEROES

ATTENDING TO EACH

OTHER'S WOUNDS, AS

DESCRIBED IN THE

SONGS OF HOMER

Achilles binding up

the wounded hand of

Patroclus

A woman
nurse at
the siege
of TroyGreek and
Trojan
heroes

accompanying, as mortals, the Greek army to the Trojan war. Machaon healed the wounded Menelaus by his miraculous touch, and eased the sufferings of Philoctetes with a narcotic potion.

These famous brothers were combatants as well as surgeons, and Homer relates that Machaon was himself wounded by Paris. Old Nestor dragged him from the field, and, carrying him to his tent, gave him wine to drink and stanching the blood which flowed from his wound. In this work of mercy he was assisted by a woman, the fair Hecamede, a rare instance in Greek legend of that early period of any female ministrations to the wounded on the field of battle.

For the most part the Homeric heroes of the Trojan war helped themselves and each other, each playing the part of nurse or field-surgeon in turn.

Thus Patroclus dressed the wound of his friend Eurypylos after having cut the flesh with his sword to get out the iron which was embedded in it, and the faithful Sthenelus performed a like office for Diomedes. Patroclus, in his turn, was tended by Achilles, bravest of all the Grecian host.

Mecisteus and Melastor bore out of the conflict, in their strong arms, Teucer, wounded by Hector. Teucer was the keenest archer of the Greeks, as Ajax, his brother, was greatest in strength and size. Among the Trojans, Pelagon is represented binding up the wounded elbow of Sarpedon, and Agenor the hand of his friend Helenus.

Goddesses and women of the most noble birth were also concerned in the arts of healing, and gifted with special knowledge of medicine and of the magic which was, in that early age, invariably associated with it. Agamede, the daughter of Augius, and wife of Milius, was said to be acquainted with the healing powers of all the plants that grew upon the earth. Polydamna furnished Helen with medicaments drawn from the soil of Egypt, such as procured safety or easy death

for those who used them. Circe was also credited with strange powers, which she used for the subjugation rather than for the help and succour of mankind.

The fortitude of Homer's soldiers in the presence of pain is remarkable. He pictures them on the plain of Troy, after a hand-to-hand mêlée, in which the great protagonists, Hector and Achilles, Paris and Patroclus, Teucer and Sarpedon, have accomplished prodigies of valour and of slaughter, tending their own and each other's wounds. From their own bodies they pluck forth the iron javelin and pointed darts, regardless of the pain and spurting blood.

Impervious
to pain

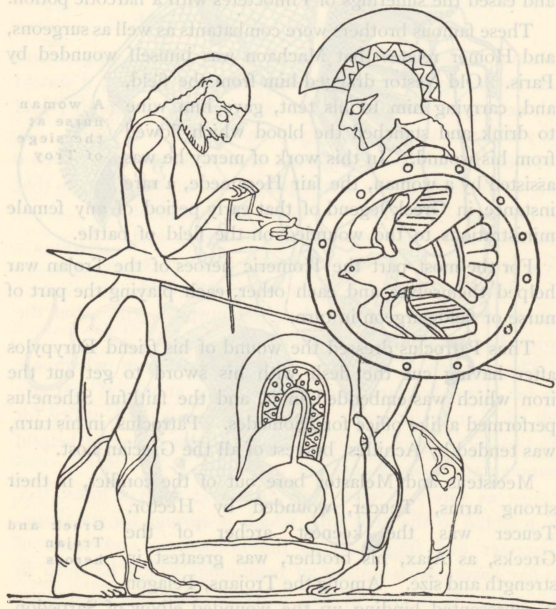
Diomedes, whose legs were pinioned together by a lance, by his own strength broke the shaft and tore the wooden talon from one and pointed iron from the other of his thighs.

Yet it is clear that some provision for nursing and surgical treatment was made in the Grecian armies of the period, for Idomeus, encountering a soldier wounded in the leg, who was being carried by his companions in arms, caused him to be conducted to a special place where he might be tended by a physician.

The descendants of Machaon and Podalirius, those early hero-physicians who alternately fought and aided the wounded at the siege of Troy, were the Asklepiades, a school of priest-physicians who grew up round the temples of ancient Hellas. Long before Hippocrates shed the light of his marvellous insight and keen observation upon medical science, the Asklepiades practised their rites. The harmless yellow snake of the marshes became identified with medicine, and to this day the serpent remains the symbol of the wisdom of the physician.

Hero-
physicians
and priest-
physicians
of ancient
Greece

Eight centuries passed between the supposed date of the fall of Troy and the birth of Hippocrates, and during that long period there is no mention of military nursing, save



GRECIAN HEROES ATTENDING TO EACH OTHER'S WOUNDS, AS DESCRIBED IN THE SONGS OF HOMER

Diomedes ministered to by his friend Sthenelus at the

Siege of Troy

that Lycurgus, in his account of Xenophon's retreat with ten thousand Greeks across Asia Minor, speaks of a special tent. In it were gathered the priests, the physicians, the players upon the flute, and the chiefs of companies. In this tent, which formed a kind of social centre to the camp, it is perhaps possible to discern the beginnings of the field-hospital of later times.

Tents for the wounded existed among the armies of Xerxes. In civil life the *xenodochion*, or municipal inn, became a feature of Grecian social institutions, and furnished a natural resting-place for the sick and wounded. The virtue of hospitality, so strongly inculcated in the golden age of Hellas, rendered such provision almost unnecessary, for it was a common thing for the houses of the rich and great to be thrown open to the stranger, and especially to the sick.

The necessity for special and public provision for soldiers had, however, made itself felt, for it is given among the laws of Solon that those injured upon the battle-field shall be attended and nursed at the expense of the community.

When Macaulay called history "a nurse's tale," he meant that it was like a story told by a nurse to children—certainly not a story of nurses. It is remarkable, indeed, how meagre are the glimpses of nurses or of nursing which are to be obtained in that antique world of more than ten centuries B.C. which the Homeric legends reveal and to which reference has been made.

It is only when the place of woman becomes more honoured and more honourable under the humanising influences of Christian civilisation that the woman nurse emerges into a recognised official position in the economy of war. Even when legend and story are left behind and authentic history begins, but little is said of care for the wounded. This is accounted for in part by the fearful mortality of battles in antient times.

Mortality
in antient
warfare

When two fighters pressed close to one another in hand-to-hand conflict, the wounds given with sword and lance and battle-axe were often fatal to each combatant, both assailant and defender meeting their doom at the same instant.

The wounded survivors of a battle were usually confided to the care of the people of the country. Thus, after the battle of Cunaxia, between Artaxerxes, King of Persia, and his brother Cyrus, in which the latter was vanquished and slain, the wounded were left in the villages under guard of eight physicians.

A famous physician named Ctesias, one of the family of the Asklepiades, was at the court of Artaxerxes for seventeen years, and it was he who gave aid to the wounded king, who received a javelin in the breast at Cunaxia, flung, it is said, by his brother's hand. Both Philip of Macedon and his more famous son, Alexander the Great, were accompanied by physicians on their campaigns. Philip, when wounded in the eye by an archer at the siege of Methone, was healed by Critobulus. Alexander took with him Philip of Acarnania, who gave his assistance when the "conqueror of the world" was imprudent enough to bathe in the frozen waters of Cydnus.

The Greek physicians who followed these famous commanders were, no doubt, chosen for their skill and knowledge of the surgical and nursing methods of their time, particularly in regard to wounds. Their art included measures for the arrest of bleeding, the relief of pain and the removal of foreign bodies from the flesh.

Although primarily attached to the entourage of the leader, their assistance and advice would be available for others, and their example doubtless tended to instil some idea of nursing and hygiene among the rough soldiery of that far-off age.

The Romans borrowed much of their learning from the Greeks, and in particular their medical lore, Asklepios becoming the Aesculapius of Rome. The Alban Fathers found the pestilence of the Campagna (probably a form of bubonic plague) an enemy more terrible than the Volscian foe, and against it even the invincible legions were powerless. At the bidding of the Sibylline oracle, they sent to Greece to learn the wisdom of Asklepios, and as the galley with its returning messengers came up the Tiber, one of the sacred serpents leapt out upon the little island in the river in the heart of the city. Upon the spot indicated by this lucky omen, the Romans erected the first temple of Aesculapius, and it is said that this island has ever since been devoted to medical and sanitary uses. The present hospital of San Giovanni di Calabita stands near the site of the old Aesculapian Temple. So intimately is the present linked up with the legendary past.

From the Greeks, the Romans borrowed the cult of bodily sanity—*salus*, as they called it—by which they meant cleanliness, rightness, health, the perfect fitness of the athlete. To attain it, fomentations, massage, baths and all the excellent hygienic rules of the disciples of Hippocrates were employed.

Various kinds of baths were introduced into Rome; washing and rubbing with warm and cold water were used, and also steam, hot sand, the steam-box bath and sitz bath. A class of professional masseurs, called *iatralepte*, came into existence.

These facts throw some light upon the state of military nursing, for it is stated that the best care and nursing available and within the knowledge of the Romans were given to their soldiers. It is true, too, that if we would know what nursing the wounded Roman soldier who survived the actual battlefield received, we must look at the condition of the art of medicine and nursing in the surrounding civil population at the time.

Beginnings
of Roman
medicine

The armies of antiquity, unlike those of to-day, were rarely self-contained or self-supporting when on the march. They lived upon the people through whose territory they passed, commandeering food and fodder and billeting themselves upon the inhabitants. The wounded soldiers, after such rough ministrations as could be afforded by their comrades, were carried to private houses.

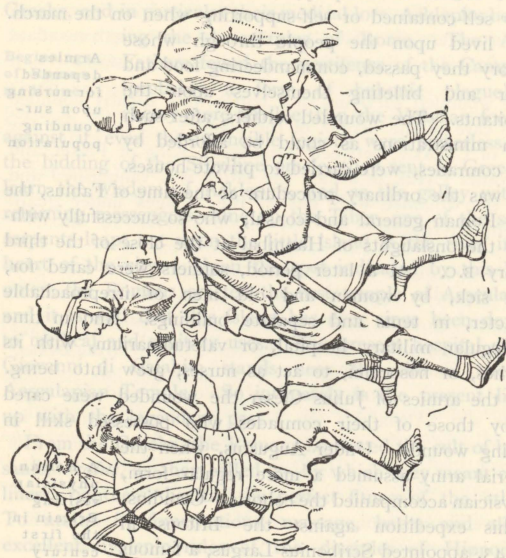
This was the ordinary procedure at the time of Fabius, the great Roman general and consul, who so successfully withstood the onslaughts of Hannibal at the close of the third century B.C. At a later period, soldiers were cared for, when sick, by women and old men of irreproachable character, in tents and separate buildings. And in time the regular military hospital, or valetudinarium, with its orderlies, or nosocomi, to act as nurses, grew into being.

In the armies of Julius Cæsar the wounded were cared for by those of their comrades who possessed skill in dressing wounds. Under Augustus, when the Imperial army assumed a more regular form, a physician accompanied the cohorts. Claudius, for his expedition against the Britons in A.D. 43, appointed Scribonius Largus, a famous man who wrote a book on the composition of medicines, and who was probably one of the first Roman physicians to visit the shores of Great Britain. From him some fragments of medical and nursing practice, as then understood among the Romans, may have found their way to the brave but untutored followers of Caractacus and Boadicea.

Under Aurelian, the skilful general who, born of a peasant family, drove the barbarians from Italy and elevated himself to an Imperial throne, the law was confirmed that each soldier should serve his wounded comrade, and that all should be treated by the military surgeons without charge.

Armies
depended
for nursing
upon sur-
rounding
population

A Roman
physician
visiting
Britain in
the first
century



SOLDIERS UPON
THE BATTLE-FIELD,
HAVING WOUNDS
DRESSED

A scene from Trajan's
Column, A.D. 114

Valetudinaria, or hospital tents, began to be set apart for the wounded shortly after the reign of Augustus, probably in that of Trajan. They admitted only the bad cases, slighter injuries being treated, as of yore, in the ordinary tents. Hyginus, a geometrician of the first century A.D., describes the position of the valetudinarium, which, like everything else in the Roman camp, was ordained with great precision and regulated by a stern and unflinching discipline.

The valetudinaria of Roman camps

It was invariably placed near the Prætorian gate to the left, in a space a little isolated from the rest of the camp. An officer entitled Optio Valetudinarii, under the Prefect of the Camp, exercised authority over its inmates. Of Alexander Severus it is related that he visited his sick soldiers in their tents, and that those of them who could not walk were carried in suspended chairs (carpenta). If they were affected by grave maladies, he placed them either in towns or country homesteads, in charge of good fathers of families or honest women. He ordered that these civilian nurses, pressed into the service of the army, were to be justly treated. They were required to give an account of the expense incurred for the sick, and were to be reimbursed whether the patient was cured or died. Whether this excellent edict was faithfully carried out in regard to the fees paid to the villagers and townsfolk who undertook the duty, it is impossible to say. Doubtless many a Roman soldier, "broken in the wars," and nursed back to health by kindly hands, became a resident upon the land, and remained even when the "far flung battle line" of Rome's victorious armies drew in, and the stricken Eagles receded before the incoming Goth—a point of light in the surrounding darkness, a centre of Roman civilisation among half-savage Gauls and Teutons.

The Scandinavian and Germanic tribes who poured in upon the Roman Empire, and broke it into fragments, had their

own traditions of military nursing. Among their women were those who were renowned for their medical skill.

From a remote period Druids and the wives of Northern princes were thus famous, and certain women are referred to as the physicians, surgeons and nurses of the Teutonic race. Among the antient Germans, wives often fought side by side with their husbands in battle, and also dressed the wounds of injured warriors.

In the fourth century the centre of civilisation was shifted from Rome to Byzantium, and it is worthy of note that in the Eastern Empire, there founded, one very important principle of military nursing was initiated. It is recorded that the Emperor Maurice (A.D. 582-602) organised a corps of cavaliers, or deputati, well-mounted men, who were charged with the duty of picking up the wounded and carrying them out of the battle to a place of safety, where they could be cared for.

The Emperor Leo (A.D. 886-911), surnamed the Wise, added to the number of these horsemen, and in his book on tactics strictly charged the commanders to have a care for the sick and wounded.

The work of nursing received a special impetus and sanction from the teaching of Christ and His Apostles. To give charity to the afflicted, help to the wounded, were acts to which, even in pre-Christian times, philosophy had given its cold approval, and the instincts of humanity at its best a hearty sympathy. The new religion did more; it revealed the sacredness of suffering, and enjoined upon all its adherents the service of man, as a part, and an important part, of the service of God.

These teachings have undoubtedly influenced to a remarkable extent the constitution of society, the laws and customs, domestic and social, of Europe and of the world, during

the last two thousand years. Care for the sick was a duty inculcated by the early fathers of the Church.

The apostolic institution of the diaconate appears originally to have been open to women. St. Paul speaks of Phebe of Cenchrea, under the title of Diakonus. The duties of the office included nursing and visiting the sick, besides the serving of tables and the bestowal of alms. The order of deaconesses occupied an important place in the early primitive Church, and then disappeared as an ecclesiastical office, being replaced by monastic and conventual orders.

It is interesting as furnishing the clue to so much in the modern history of military nursing, for the idea of the deaconess, a virgin or widow who devoted herself to the work of sick-nursing, was revived long years afterwards at Kaiserswerth, and inspired Florence Nightingale to her great life-work.

In the fourth century, Constantine was baptised, and the Christian faith emerged from the position of a persecuted sect to that of a dominant religion, soon to infuse its light far beyond the fast narrowing circle of Roman influence. But through the new social order, with its Christian tenderness for human life and sympathy for human suffering, which grew up in various forms upon the wreckage of the Roman Empire, there broke ever and anon the fierce tide of war. The pagan lust of conquest, the savage lust of slaughter, alternated with heroic self-sacrifice and ascetic devotion.

The story of the Middle Ages is like that of a child in whom moods of docile penitence and passionate fury follow one another in rapid succession. It was, indeed, the childhood of Europe, and all that was best and all that was worst in it was evoked by that remarkable war, or series of wars, which for two centuries occupied the chivalry of East and West—the Crusades.

Jerusalem had long been a place of pilgrimage. Tradition asserted that Helena, the saintly mother of Constantine, had found there the true cross, and had built churches upon the holy places. St. Jerome, in the fourth century, had set up his hermitage in the Holy Land, and induced Paula, Fabiola and other noble Roman matrons to found hospitals. Then, in the seventh century, Chosroes the Persian plundered Jerusalem of its relics and stained its altars with sacrilege. He was defeated and driven forth a few years after by the Emperor Heraclius, and for a time the pilgrims were left in peace. The followers of Mohammed, aflame with that burning enthusiasm for conquest which carried them in a victorious stream over Persia, Egypt and Syria, and even to India and Gaul, were more difficult to deal with.

For a time the crescent triumphed over the cross, and the miseries and indignities heaped upon the ever-increasing stream of Christian pilgrims became a scandal to Christendom.

Certain rich merchants of Amalfi, moved by the sight of weary palmers and sick and famished pilgrims perishing by the wayside, established about A.D. 1050 two hospitals at Jerusalem, one for either sex. They were dedicated to St. John the Almoner and St. Mary Magdalene. The hospital of the Almoner became the cradle of the illustrious fraternity of the Knights Hospitallers of St. John of Jerusalem, of Rhodes and of Malta. Its first rector, Gerarde, a man of saintly type, impressed upon the order a deeply religious and benevolent character, and, despite the wealth, power and military glory which for seven centuries fell to the lot of Knights of St. John, they never entirely lost sight of this side of their functions. It was from the first a military nursing order. Additions to its ranks were drawn from that army of the first crusade under Godfrey de Bouillon, which has been described as the most glorious the sun ever beheld.

Pilgrims
to the
holy
places

The
hospitals
of St. John
the
Almoner
and
St. Mary
Magdalene



GERARDE TUM OR TUNC

Who founded the Order of St. John of Jerusalem in 1099



RAYMOND DU PUIS

First Military Grand Master of the Order of Knights Hospitallers of St. John. Succeeded Gerarde in 1118

A noble Roman lady, Agnes, presided over the female branch of the order, called the Sisters of St. John, members of which assisted in the work of nursing.

The Hospitallers took on a more military character after the death of Gerarde, who was succeeded by Raymond du Puis. They divided their time between fighting the Saracen and nursing the sick. Over their armour they wore a red tunic, bearing an eight-pointed white cross upon it, and the fame of the exploits of these Knights of the White Cross soon spread throughout the world.

Gerarde
and
Raymond
du Puis

Another nursing order was that of the Teutonic Knights, founded by a merchant from Bremen and sanctioned by Pope Clement III. In connection with this "Deutscher Orden" it is related that after their first hospital had been destroyed by the fall of Jerusalem, the German soldiers at the siege of Acre sought to assist the sick and wounded. They formed their tents, which were made from the sails of ships, into a hospital tent, and there nursed their comrades. A third nursing order, more antient in its origin than even that of St. John, was the Order of St. Lazarus. It had sprung from the great hospital built by St. Basil, the Bishop of Cesarea, in A.D. 370.

The
Teutonic
Knights
and the
order of
St. Lazarus

This order received as members not only knights who had shared in the wars of the Crusades and who desired to devote themselves to the care of lepers, but also those who had been themselves stricken with the dread disease, then the scourge of European armies in the East. Their emblem, an eight-armed cross, has in recent times become the heritage of the German Nurses' Association. All through the Crusades the Knights Hospitallers of St. John, whose patron saint had been changed to the Baptist, gallantly defended the Holy Land and nobly succoured their wounded brethren. Wealth poured into their coffers, and they became a great political and military power under a Grand Master, who exercised an independent



A SISTER OF ST. JOHN

Showing the costume worn by the Sisters of the Order of St. John attached to the Hospital at Beaulieu, before A.D. 1522

sovereignty and was accounted at one time the most powerful prince in the East. Many separate commanderies were formed, and the order was divided, according to the nationality of its adherents, into eight langues, namely, Provence, Auvergne, France, Italy, Arragon, England, Germany and Castile. Amid all their military triumphs they preserved their tradition as a nursing order, and, in 1191, Hugh de Lusignan, King of Cyprus, describes them as "feeding daily an innumerable multitude, attending to the sick and comforting the dying, consecrating their days to deeds of mercy and to the maintenance of a constant war against infidels."

The eight
langues of
the Order
of St. John

In 1522 the Knights of St. John defended the island of Rhodes against a force of 200,000 Turks under Soliman the Magnificent. Ninety thousand of the besiegers perished in that terrific and long-sustained conflict, a fact which contrasts strangely with the comparatively bloodless seizure of the island in modern times.*

The siege
of Rhodes

In 1530 the Emperor Charles V. granted to the Knights the isles of Malta, Gozo and Tripolis, and in Malta their Grand Master, La Valette, founded the fortress city of Valetta. Within it was established, in 1575, the Holy Infirmary of the Knights of St. John, for many years the most splendidly equipped hospital, either military or civil, in existence. It was presided over by the Grand Hospitaller himself, head of the French langue, and managed by a Knight called the Infirmaryman, with two assistant Knights—the prodomi.

In England the Knights of St. John obtained a pre-eminent position. Their first priory was at Clerkenwell, where a part of the old gateway still remains. The Grand Priors of the English langue were summoned to Parliament among the barons of the realm from the reign of Henry II. to that of Elizabeth, who abolished the English langue.

Knights of
St. John in
England

* The island of Rhodes was captured in 1912 by the Italians, with a total casualty list of 30 men killed on both sides—23 Turks and 7 Italians.



A SISTER OF ST. JOHN
Of the Hospital of Toulouse

In Malta the order lingered on till 1798, when, at the bidding of the French revolutionaries, the last Grand Master, Ferdinand de Hompesch, renounced his sovereignty and resigned his position, leaving his six hundred knights to disperse, as they would, throughout Europe.

After seven centuries of splendour, the order as a political and military force came to an end. But it has left traces: they are to be discerned not only in the war-worn walls of fortress, keep and castle, or in the tattered flag which tells of the forgotten feuds and fierce battles of long ago, but in other things of even greater value. The ideas of this famous old order of chivalry have stamped their impress deeply upon the conscience and memory of European nations. Courage without brutality, a tenderness for the sick and wounded even upon the battlefield, the help which strength renders to weakness and the mercy of the victor towards the vanquished—these things are typified by the knight in armour who bends over the fainting palmer or drags the stricken comrade out of the mêlée. That this heritage of ideas has been a

Their
continued
influence

source of inspiration in the direction of military nursing is shown by the various guilds and corporations which have taken the name of St. John for their badge, and followed in the footsteps of the Knights Hospitallers in this noble work.

In Germany there are the Johanniter and Johanniterinnen, associations of men and women whose object is volunteer and charitable nursing.

In England and America the name is associated with numerous orders of nursing sisters; nor is this all, for the order has had in comparatively recent years a more direct revival.

In 1827, a capitular commission of five out of the seven then existing langues of the order decreed its revival in England, and in 1830 its members united as an order or fraternity for the purpose of performing hospitaller or other charitable work. From this basis has sprung the St. John Ambulance

St. John
Ambulance
Associa-
tion



ST. VINCENT DE PAUL
1576—1660

Founder of the great French nursing sisterhood "Les Sœurs de Charité"

Association, whose useful and important work in connection with first-aid is well known.

The nursing of the wounded has often been neglected by governments, and but poorly provided for by military authorities, and the voluntary associations which have arisen from time to time have done immense service in ameliorating the conditions of war.

Such efforts have often owed their initial impulse to the kind heart of a good woman. In 1640, for instance, the town of Arras was besieged, and the sick, wounded and dying were without care or accommodation. A noble-hearted woman, one Jeanne Biscotte, the daughter of a citizen, realised the need for action, and, gathering round her a company of her friends, went about the streets dressing wounds, rescuing, feeding and comforting all who needed her ministrations. A large public building was shortly obtained by these devoted women and converted into a hospital.

St. Vincent de Paul and the nursing sisterhood he founded

Of wider significance, in regard not only to military nursing but to the whole history of nursing, were the beneficent activities, which commenced at about the same period, of that remarkable man St. Vincent de Paul. To this humble and devoted priest and his gifted coadjutor, Mdlle. le Gras, was due the organisation of the Great Order of Sisters of Charity which bears his name, still the largest nursing sisterhood in the world. With the general history of this order it is impossible to deal in this place, but a word should be said concerning its notable work in connection with army nursing, a work which has secured for it the lasting affection of the French people. The order had its birth during that unhappy period of French history, the Thirty Years' War. The sisters were early called to give their aid to the wounded, namely, at Sedan in 1654, and again at Arras in 1656. Ever since they have taken an active part in nursing the soldiers who have

fought and bled, whether under the fleur-de-lys or the tricolour, for France.

War has often been the world's pedagogue. It has roared its lessons through the cannon's mouth, and worked out its problems in red diagrams upon the battlefield, but its gifts and prizes have not all been of destruction or of death.

Out of the smoke and travail some good has come, like gold from the fire.

The ambulance movement, which is inseparably connected with military nursing, is one of the fruits of war. It had its origin, in its modern form, from the necessities of Napoleon's campaigns. It was amid the fearful havoc wrought in the name of glory upon the fields of D'Eylau, Saint Jean d'Acre, Austerlitz and Jena, that there arose this splendid and beautiful conception of human duty, which, even in the midst of devastating conflicts and death-dealing assaults, sought to rescue the injured, to diminish human suffering and to save life. And the man who perceived this duty and carried out with fearless devotion and great skill this noble enterprise was Jean Dominique Larrey, the organiser of the famous "ambulances volantes" of the Grande Armée.

Larrey was born in 1766, in the little village of Beaudean, near Bagneres-de-Bigorre. Having lost his father in infancy, he was tenderly brought up by a mother who doubtless inspired him with that sympathy for humanity which became his lifelong characteristic. A worthy priest, l'abbé de Grasset, charmed with the gentleness and vivacity of the boy, gave him his first instruction. The little acolyte and chorister of the village church of Beaudean, having pursued his medical studies with an uncle at Toulouse, and in the famous clinics of Desault and Sabatier in Paris, became in due time a Surgeon-Major

to the forces of King Louis XVI, and was concerned in tending the first victims of the social disorders which preceded the Revolution of 1789. After a brief tour with the fleet, Larrey became an Aide-Major (Surgeon-Major of Hospitals), and served with the army of the Rhine, commanded by the Marechal Luckner. At the first engagement he noted the lamentable condition of the ambulance service system—if system it could be called—then in vogue. No attempt was made to collect the wounded until after the battle; the men lay where they fell, untended, until the action was over. Then, and not till then, were their comrades able to bear them, as best they could in their arms, to a place of safety where their wounds could be dressed; but in the wreckage of a great battle, such a quantity of equipage and men was frequently interposed between the wounded and the field hospital, that in many instances twenty-four, or even thirty-six, hours elapsed before the wounds were dressed. In these circumstances, it was little wonder that a large proportion of sufferers perished on the way, before arriving at the surgeon's hands. Major Larrey conceived then and there his plan of flying columns like those of the artillery, capable of following the movements of the army at the front rank, but devoted to the task of saving life, instead of destroying it.

That wounds demand prompt attention seems obvious enough, but it required a man of energy and genius to rediscover the obvious, when it had been long obscured by an evil custom of indifference and delay. In carrying out his project he had the co-operation of General Custines and the Commissariat General Villemanzy. Suspended carriages, adapted, some for two and others for four wounded men, were designed. Each carriage was accompanied by a mounted officer of the hospital corps.

It was during a combat with Austria, when the *avant garde* of Custines' army fought its way through the

Napoleon's
campaigns

The
"ambulances
volantes"

Baron
Larrey

Quick
transport
of the
wounded



BARON JEAN DOMINIQUE LARREY

The "Chirurgien-en-Chef" of Napoleon's "Grande Armée," who introduced the "ambulances volantes".

mountain defile of Oberthichel, that Larrey first had the opportunity of testing his new system. The battle of Mayence (July 22, 1793) brought him an honourable mention in the "Moniteur," and before long the new surgical legion which he had organised won the warm approval of Napoleon. It was a legion to which "*le petit caporal*" was to

Larrey
made
Surgeon-
in-Chief

assign abundance of work. In 1798, Larrey was named Surgeon-in-Chief of the army, and at the head of 800 surgeons started for Egypt. At Alexandria, Chebreisse, the battle of the Pyramids, Jaffa, Saint Jean D'Acre and Heliopolis, and in the expedition to Syria, he and his brave comrades, the "officiers de Santé," did yeoman service. His promptitude and resourcefulness saved untold suffering and thousands of lives during the series of terrific combats in which the "man of destiny" now engaged with each of the European powers in turn. One incident must suffice to illustrate the temper of the man who may well be regarded as one of the heroic founders of modern military nursing. It was

An
incident
at D'Eylau

at the battle of D'Eylau, notable even among Napoleonic battles for the terrific slaughter among the two opposing armies. Owing to a rapid movement, the ambulance quarters of the French army were threatened by a Russian column. Larrey, who was in the act of amputating a leg, saw terror and disorder spread among the helpless and wounded around him. Some of the latter attempted to fly, but the heroic surgeon advanced into their midst. He assured them that he and his assistants were ready to die rather than leave their post, and then quietly resumed his work. The panic was at an end, and the tide of battle swept by the harassed field-hospital without inflicting further injury upon its occupants.

Thereafter, wherever French arms carried the tricolour, even to the ill-omened walls of Moscow, Baron Larrey,

Chirurgien-en-Chef, commanded the forces of help and succour, and his splendid services to the army won the respect and affection of his compeers.

Napoleon's
appreciation of
Larrey

"Larrey," said Napoleon, penning his last will and testament upon the lonely rock of St. Helena, "c'est l'homme le plus vertueux que j'aie connu."

Another distinguished medical officer of the French army, who greatly assisted the movement for better treatment of the wounded upon the field of battle, was Baron Pierre François Percy, organiser of the corps of brancadiers, or bearers.

In the fragmentary glimpses of military nursing in antient, mediaeval and more recent times which have been reviewed hitherto, it will be observed that woman has played but a very small part. It is true that the devoted sisters of St. Vincent de Paul, the Béguines and other Sisters of Charity, had given their aid on many a battlefield and in many a crowded field-hospital, but not as directors and administrators of nursing—rather as gentle and humble ministrants thereto.

It was reserved for a great national crisis in the history of the British Army to evoke, as great events have so often before evoked, a genius, a great soul, a resolute human spirit sufficient for its need.

The event was the Crimean War, and the genius—Florence Nightingale. So central and important is the position occupied by this truly great and good woman in the story of military nursing, that the whole period immediately before her—a most depressing one in nursing annals—is commonly spoken of as the pre-Nightingale time. Her name is "writ large" over the story of all that has been done and accomplished to lift up the profession of nursing, and especially army nursing, in the last sixty years.

Florence
Nightingale and
the
Crimean
War



MISS FLORENCE NIGHTINGALE AT SCUTARI



SIR WILLIAM HOWARD RUSSELL
Special correspondent of "The Times" during the Crimean War

When Dr. Russell (afterwards Sir W. H. Russell) sent home from the front his powerful and eloquent indictment of the military authorities for their treatment of the wounded, the harassed War Secretary turned instinctively to her.

"The manner in which the sick and wounded have been treated," wrote Dr. Russell, "is worthy only of the savages of Dahomey. Numbers arrived at Scutari without having been touched by a surgeon since they fell, pierced by Russian bullets, on the slopes of Alma. The ship was literally covered with prostrate forms, so as to be almost unmanageable. . . . The neglected gunshot wounds bred maggots. The sick appeared to be attended by the sick, and the dying by the dying. . . . The medical men toiled with unwearied assiduity, but their numbers were inadequate."

Sir W. H. Russell, "Times" correspondent, describes condition of the wounded

The appeal of "The Times" for nurses and medical comforts roused the nation to a sense of its responsibility, and Miss Nightingale was given unusual powers to deal with the situation as Superintendent of the Nursing Staff in the East.

Taking with her some nurses from St. John's House, Miss Nightingale started for the Crimea on October 23, 1854. The act required at that time the daring of a pioneer. For a gently nurtured and cultivated woman to proceed to the seat of war, and take up the superintendence of military nursing on a large scale, was an unheard-of innovation.

But in Miss Nightingale's case, gentleness and culture were not all. She possessed, in addition, a truly marvellous gift of organisation and a power of moulding others to her will which were to work wonders with the slow-moving wheels of military reform. The Hon. Sydney Herbert (afterwards Lord Herbert of Lea), Secretary of War, was fortunately

well acquainted with her, and appreciated her unique qualities. He knew of her long and thorough training in nursing at Kaiserswerth, of her careful and systematic examination of hospitals throughout Britain and the Continent of Europe, and he was able to give official sanction to her acts.

She was known later as the "Lady-in-Chief," and her superintendence extended over the female nursing establishment of the Great Barrack Hospital lent by the Turkish authorities, the General Hospital at Scutari, the hospitals at Koulalee, and five other general hospitals in the Crimea.

Within ten days of her arrival Miss Nightingale had a kitchen fitted up for special diets and was supplying suitable nourishment to 1000 patients. Slowly, with infinite toil and against endless obstacles and difficulties, something like order and a regular nursing service was evolved out of the chaos of the Great Barrack Hospital, seething as it was with an ever-increasing mass of suffering humanity. The recognition of woman's fitness to minister to the sick and dying soldier dates from the Crimean War. It was settled once for all by "The Lady of the Lamp" at Scutari.

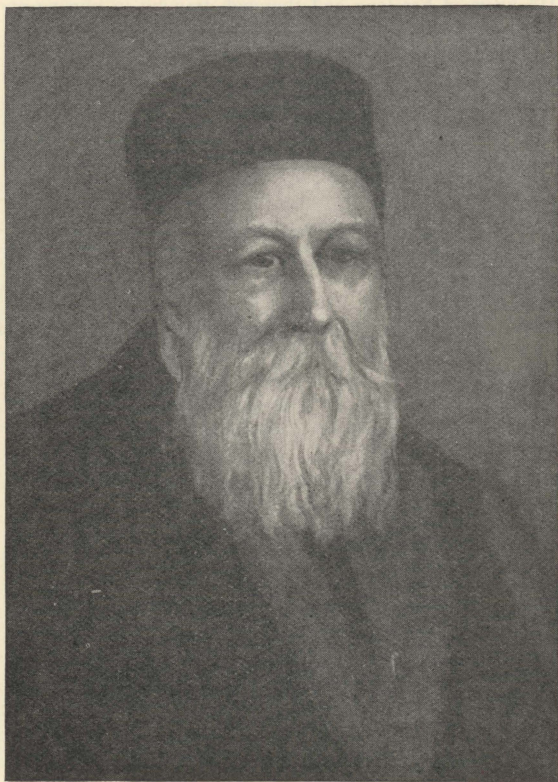
The immediate outcome of the Crimean War was the reorganisation of nursing at the British military hospitals. For the first time nursing sisters were introduced at Chatham, and, later, at the new hospitals at Woolwich and Netley.

Queen Victoria was deeply interested in nursing reform, and expressed her high appreciation of Miss Nightingale's work. When, many years later, the Queen created the order of the Royal Red Cross, a distinction designed to honour those whose work for the British forces displayed as high a courage as that which gained, in the fighting line, a Victoria Cross, Miss Nightingale's was the first nurse's name placed upon its roll.

The Royal
Red Cross
Order



MISS FLORENCE NIGHTINGALE
in later life



M. HENRI J. DUNANT

Author of "Souvenir de Solferino" and a life-long helper in the cause of improved conditions during war-time

Another result of the war was the great stimulus given to the training of nurses. A fund of nearly £50,000 was placed at the disposal of Miss Nightingale to carry out her treasured project of training a superior order of nurses. The Nightingale School was ultimately founded in connection with St. Thomas's Hospital and placed under the charge of Mrs. Wardroper. The health of the "Lady-in-Chief" had been permanently lowered by her heroic labours in the East, and although she lived to a great age, she was prevented by her invalided condition from personally conducting the nursing school which bore her name. Her influence, writings and advice were, however, always devoted to the cause, and have steadily helped forward the progress of nursing, not only in her native country, but all over the world.

The
Nightingale
School for
Nurses

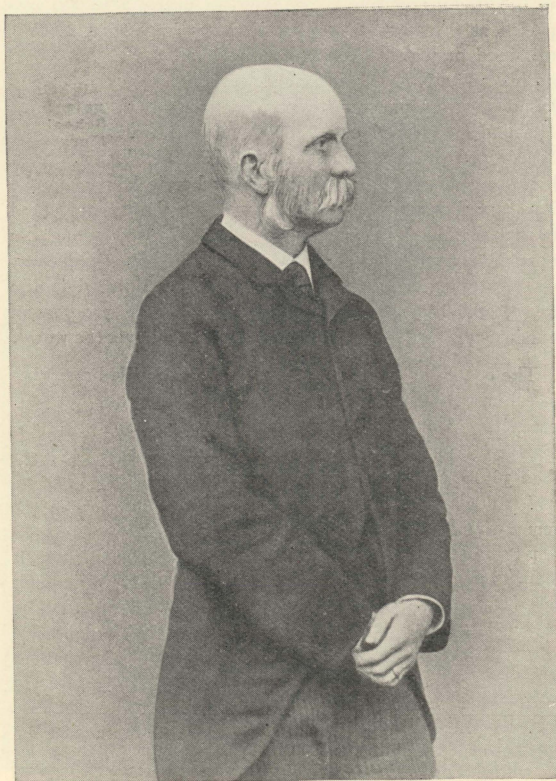
The echoes of the Crimean War had barely died away before Europe was again plunged into a sanguinary conflict, and when, in 1859, Austria, Italy and France left upon the soil of Lombardy no less than 38,000 victims of war, slain during a battle which raged without abatement for fifteen hours, a wave of remorse and compunction passed over Europe.

The war
of Italian
independence

It found expression* in M. Henri J. Dunant's eloquent and persuasive "Souvenir de Solferino," a pamphlet which induced the Société Gènevoise d'Utilité Publique to take up the question as to whether relief societies might not be formed in time of peace to help the wounded in time of war by means of qualified volunteers.

* In advocating the establishment of Sociétés de Secour pour les Blessés, Henri J. Dunant uttered these noble and memorable words:—

"Un appel de ce genre s'adresse aux dames, comme aux hommes . . . aux hommes de tout pays et de tout rang, aux puissants de ce monde comme aux plus modestes artisans, puisque tous peuvent, d'une manière ou d'une autre, chacun, dans sa sphère et selon ses forces, concourir en quelque mesure à cette bonne œuvre . . . Il s'adresse à la grande princesse assise sur les marches d'un trône, comme à l'humble servante orpheline et dévouée, ou à la pauvre veuve, isolée sur la terre, et qui désire consacrer ses dernières forces au bien de son prochain."



SIR JOHN FURLEY
Founder of the British Red Cross Society.

The resolutions of this philanthropic society took more practical shape and achieved a far wider effect than is usually accorded to such debates. An international conference was held on October 26, 1863, at which delegates representing fourteen powerful governments, including Great Britain, France, Austria, Prussia, Italy and Russia, were present.

The Geneva Convention, the great charter of humanitarianism in war, was ultimately signed as an international treaty by all the civilised powers. It has been amended from time to time and its provisions deal with many aspects of warfare. It forms a code of honour known and recognised throughout the civilised world as to what may and may not be done to belligerents and neutrals during hostilities, and has been instrumental in lessening very greatly the horrors of war.

The
Geneva
Convention

Among its most important provisions are those which relate to the treatment of the wounded, and the immunity from attack of hospitals and ambulance corps on the field of battle.

The
treatment
of the
wounded

The International Society, afterwards called the Red Cross Society, sprang into being, and a very large number of volunteer societies of various nationalities followed suit.

The British Red Cross Society owes much to the activities of Sir John Furley, who has devoted the best years of his life to this great work. In 1869, during a hush which, as events proved, preceded a terrible storm, a Conference was held at Berlin. Mr. Furley was present, and undertook to form a Red Cross Society in Britain, should a great war take place. The necessity arose all too soon, and in 1870 the "British National Society for Aid to the Sick and Wounded in War" was formed under the patronage of Queen Victoria. The Prince of Wales, afterwards King Edward the Seventh, was president of the Society, and Colonel Loyd Lindsay conveyed

British
Red Cross
Society



Some nurses who helped to tend the wounded during the Russo-Japanese War
A group taken at the Kojimachi Military Hospital at Tokyo in 1905

on its behalf £40,000 to Versailles and Paris to be equally divided between the sufferers among the armies of the two great protagonists in that historic conflict.

Sir John Furley acted as commissioner abroad. Throughout the battles of that campaign, and at the siege of Paris, he was able to organise the supply of medical comforts and of nurses, sent out through the generosity of the British public.

The same Society afforded much relief during the Servian War, July-September, 1876, and the Russo-Turkish War of 1877-8; but an unforeseen difficulty, due to the very enthusiasm and devotion of the volunteer societies, now began to make itself felt. During some of the campaigns, particularly those of the Franco-Prussian War, the Red Cross had proved embarrassing to the military authorities. Parties of volunteers constituting independent ambulance corps belonging not only to the belligerents but also to neutral States bearing the distinctive flag and brassard, roamed all over the field; thus the strategy of a skilful general was liable to be hampered at every turn. As a consequence, the volunteer Red Cross Societies, in spite of their splendid achievements, fell into disrepute with military authorities in Europe, and from 1869 to 1884 no meeting of the International Society took place. But an important part of its noble work had been accomplished. It only remained for the armies of the world to assimilate the ideas which had been promulgated and adapt their organisations accordingly. This has now been done, and an outlet has been found for the sympathy and enthusiasm of the men and women at home who watch their brethren in the field. The rôle of the Red Cross Societies has been defined, and their activities turned into the most useful channels.

The true rôle of the Red Cross Societies

It was imperative that this work should be done with the full sanction and under the control of the military authorities.

Only thus could it be effective, since belligerents refused to recognise Red Cross brigades which were not under the official control either of their own or of the opposing military force.

During 1906 the Geneva Convention underwent some revision, and it was agreed that only societies authoritatively recognised by the government of the country and incorporated in the general military scheme of aid to the sick and wounded in war would be recognised by belligerents. In the improvements of army nursing the Red Cross Societies and the Red Cross movement generally have been of signal service. That movement has rendered possible the work of the field-hospital, superintended by women nurses and served by orderlies, who were the modern representatives of the old nosocomi or soldier-nurses of classical times, and brought it nearer to the actual scene of conflict.

Under the protection of the honoured Red Cross flag the peaceful task of binding up wounds, setting the broken bone or extracting bullets from the injured limb, could go on at a point but little removed from the firing-line. The immensely useful work of the International Society continues.

Meantime another war, fateful to the world's history as any of the dynastic conflicts of Europe, was convulsing the United States of America. Its results were far-reaching. Besides freeing the slaves and maintaining the Union, the American Civil War, which continued from April, 1861, to May, 1865, gave a new impetus to the cause of military nursing. Here, again, women took a leading part. Dr. Elizabeth Blackwell and Miss Louisa Schuyler were among the most prominent helpers in the giant task of equipping nurses for the war. Under the fostering care of the Sanitary Commission an admirable system of hospitals was developed. Miss Dorothea Dix, a remarkable woman whose philanthropic zeal on behalf of the blind, the insane and the diseased was known in every

The
improvement
in
army
nursing
effected
by the Red
Cross
movement

The
American
Civil War

State of the Union, was appointed the first Superintendent of the Nursing Staff. As in England, the Crimean, so in America, the Civil War, was the starting-point for the establishment of military nursing upon a better footing, from which it has never receded. The splendid work of the war nurses under the Sanitary Commission was beyond praise, and left its permanent mark on the position of nursing in the United States of America.

That distinguished surgeon, Sir Frederick Treves, bore eloquent testimony to the work of the nurses in the South African Campaign of 1899-1901, when Boer and Briton, now happily working together under one flag, were engaged in a prolonged and wearing conflict.

Women nurses formed a part of the staff of every field-hospital and bore their share of privation out on the open veldt, in blinding dust-storm or beneath a scorching sun. They were jolted in rough ox-wagons and slept on the bare floor in order that they might be ready to minister and give relief to the long stream of wounded soldiers borne by stretcher-bearers from Colenso, Spion Kop and Maggersfontein. "They seemed," wrote Sir Frederick Treves, "oblivious to fatigue, to hunger or to any need for sleep. Their ministrations to the wounded were invaluable and beyond all praise. They did a service during those distressful days which none but nurses could have rendered, and they set to all at Chieveley an example of unselfishness, self-sacrifice and indefatigable devotion to duty."

On a later occasion the same high authority wrote, of the personal qualifications required by the ideal army nurse, as follows: "She is versed in the elaborate ritual of her art, she has tact and sound judgment, she can give strength to the weak and confidence to the faint at heart, she has that rarest insight which can see the world through the patient's eyes, and she is possessed of those exquisite, intangible and most human sympathies which in the fullest degree belong alone to her sex."

The South
African
War

The ideal
war
nurse

As though to continue the now well-established tradition that each great war should contribute something to the development of military nursing, there sprang into being, in 1902, Queen Alexandra's Imperial Nursing Service. It was realised that although the male nurse—represented by the orderlies and men of the Royal Army Medical Corps—must always be of paramount importance, there was a place also, and a necessary place, for trained women nurses in British Army nursing.

Two matrons of civil hospitals, Miss Monk, of King's College, and Miss Cave, of Westminster Hospital, rendered valuable service in organising the new service, and, later, Miss Isla Stewart, matron of St. Bartholomew's Hospital, was appointed a member of the board. The first matron-in-chief, Miss Sidney Brown, R.R.C., who had served with great zeal and distinction in Egypt, the Soudan, Malta and South Africa, received the cablegram offering her the post while on duty in the camp at Pretoria.

Another result of the Boer War was to bring the British War Office into more intimate relations with the Army Nursing Service Reserve—a most useful institution founded years before by Her Royal Highness Princess Christian. One hundred nurses had been supplied at once by this organisation at the outbreak of the war, and during the winter of 1899-1900 some eight hundred more were enrolled in the Reserve.

In the Russo-Japanese War of 1905 the Japanese showed how completely they had assimilated the scientific culture of the West by their admirable military medical service. It included a devoted band of nurses. Some of those who were attached to the great Kojimachi Military Hospital at Tokyo are depicted in the illustration on *page 44*.

Japanese military nurses all receive a very thorough training for three years before taking up their duties in connection with the Imperial army.

War is still the permanent preoccupation of statesmen. It hangs like Damocles' sword above the feast of all that is

fair and alluring in our modern civilisation. Invincible arms and impregnable defences rear their colossal forms on every side, each to be in turn superseded by some new weapon more deadly than the last, or by some new form of ingenious resistance. Backwards and forwards the pendulum swings, torpedo and torpedo destroyer, machine gun and armoured train, the submarine and the airship, the aeroplane and the long-distance gun; there is immense progress but no finality, and meantime the nations groan beneath the increased cost of armaments and the friends of peace exclaim at the prodigious waste of effort which war involves.

In this gloomy picture there is one bright spot. War—and the preparation for war—is a corrective, a stimulant. It evokes high qualities which peace lulls to sleep, and lifts mankind to a plane of noble endeavour which no other motive appears able permanently to sustain.

Thus out of evil comes good. Side by side with the march of death-dealing armaments is the steady advance in all the healing and helpful arts which accompany war and assuage its human anguish.

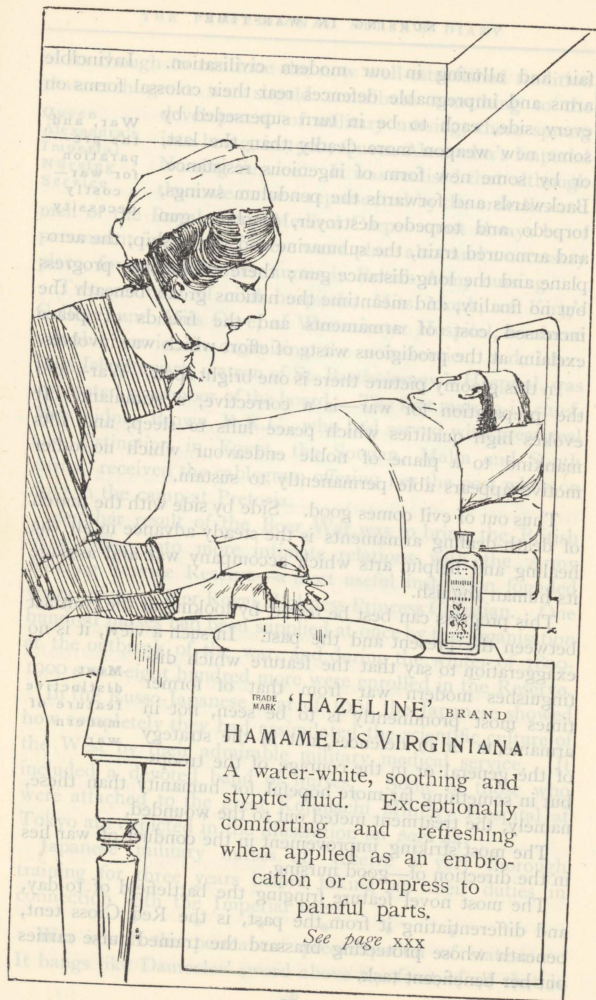
This progress can best be tested by looking at the contrast between the present and the past. In such a view, it is no exaggeration to say that the feature which distinguishes modern war from that of former times most prominently is to be seen, not in armaments or in defences, not in the strategy of the general or in the courage of the troops, but in something far more hopeful for humanity than these, namely, the treatment meted out to the wounded.

The most striking improvement in the conduct of war lies in the direction of—good nursing.

The most novel feature fringing the battlefield of to-day, and differentiating it from the past, is the Red Cross tent, beneath whose protecting brassard the trained nurse carries out her beneficent task.

War, and the preparation for war—a costly necessity

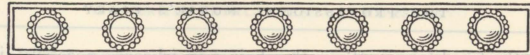
Most distinctive feature of modern war



TRADE MARK
'HAZELINE' BRAND
HAMAMELIS VIRGINIANA

A water-white, soothing and styptic fluid. Exceptionally comforting and refreshing when applied as an embrocation or compress to painful parts.

See page xxx



GENERAL PRINCIPLES OF NURSING

Of the many professions which have now been thrown open to woman, there is none purer and nobler than that of nursing.

Like every high calling, it demands from those who would enter it motives other than those of mere self-interest. The rewards and compensations which it offers cannot be summed up in pounds, shillings and pence. Nursing is a vocation, not a bargain, but a vocation which gives back to those who respond to it faithfully an abiding joy, an assured and honourable place in the world and a sense of personal utility and self-respect.

Good nursing is the practical application of the laws and principles of good surgery, of sound pathology, and of the new insight into the origin and etiology of disease which has come through the discoveries of bacteriologists and other workers in the domain of medical science.

Behind it, however, there is more than this. The sources of its inspiration are not purely intellectual, but have their springs in the deepest and holiest of human feelings. It is the object of a nurse's training to convey the deep enthusiasm of the novice into practical channels, and render it effective in diminishing human suffering and combating disease under all the various and trying conditions which present themselves.

This training must be acquired by actual experience and observation and by personal instruction, either in a hospital or some other institution where the care of the sick has received for years thoughtful, exact and practical attention. It is when the nurse has left the hospital with its admirable organisation and many helps that her resources are taxed to the utmost. No longer has she the advice and assistance of her comrades and seniors. The up-to-date appliances and ample supplies furnished as a matter of routine by others have to become in private practice matters for her own thought and care. Alone, or with an occasional word of advice from the attending physician, she has to consider every detail and carry out every thoughtful provision for the comfort, well-being and health of her patient.

So far, however, from this being an irksome necessity, it is a pleasure to the capable and enthusiastic nurse. During the period of training she has been acting largely under the immediate direction and supervision of others; she is now responsible only to the doctor, the patient and her own conscience.

It is in private practice, in district nursing and in the small country hospital that the greatest responsibilities and the most difficult problems devolve upon the nurse, and it is to nurses so engaged that the hints and suggestions contained in the following pages will be of the greatest service.

THE SURROUNDINGS WHICH MAKE FOR HEALTH

It is the business of the nurse to obtain for her patient the best surroundings possible in the circumstances of the case. To do this she herself must be well adapted in mind, person and equipment for the task she has undertaken.

CLEANLINESS

The nurse should be, and, to do her justice, she usually is, an example of perfect neatness and cleanliness. In nursing, cleanliness is not merely a matter of taste—the natural outcome of good breeding and good manners. It is something more—it is a duty, involving a real and very important professional obligation.

In no way can the importance of this subject be emphasised more than by stating the fact that practically all the triumphs of modern surgery have been achieved through the adoption of a scientific system of cleanliness. The general public, including the most refined classes, who have a horror of all visible dirt, have as yet but a faint idea of what is meant by surgical cleanliness, and it is therefore often the duty of a trained nurse to educate up to the scientific standard those amongst whom she is working.

Her example has already accomplished much, and will do more. With the knowledge that at any moment she may be called upon to attend a woman in labour or to assist in a surgical operation, the nurse practises personal cleanliness as a matter of honour. Every vestige of dirt, whether visible or

unseen, must be removed, particular care being taken in regard to the hands and nails. The dress should be short enough to clear the ground, every article of attire must be washable and frequent changes should be made. Cuffs, collars and caps should be clean, and not in appearance only. A soiled pocket handkerchief should never be tolerated. The teeth should receive careful attention morning and evening. A hot bath should be taken at frequent intervals.

'Dartring' Lanoline Toilet Soap should be used for washing the hands and arms, neck and face. This soap is of great service to nurses in keeping the hands smooth, supple and elastic and free from blemishes of all kinds. The soothing, emollient and antiseptic powers of 'Borofax' Brand Boric Acid Ointment and 'Phenofax' Brand Carbolic Acid Ointment specially commend these products to nurses. During work the arms should be bare.

Carbolic acid is, perhaps, the best general antiseptic, but for some purposes mercury perchloride and mercuric potassium iodide are preferred.* 'Soloid' Carbolic Acid is prepared in three strengths, containing respectively five, twenty and sixty grains. Twelve of those of gr. 20 strength are put up in a tube, and form an extremely convenient means of carrying carbolic acid from place to place without danger, and of preparing solutions of any desired strength at the instant they are required. Thus an antiseptic solution for rinsing the hands may be prepared by dissolving one of the gr. 20 strength in a quarter of a pint of water, but it is pointed out that this solution is not of a strength sufficient to ensure complete asepsis, for further details regarding which reference should be made to the article on Surgical Nursing, page 87.

From example the nurse turns to precept. She must teach cleanliness, and especially is this a duty in district nursing. It is scarcely possible in any private house, especially among the class with which a district nurse comes in contact, to keep the patient and his surroundings scientifically clean. But, by bearing in mind constantly the chief objects at which to aim, a nurse can hardly fail to make the conditions infinitely better than they would be in the hands of an untrained person.

When washing patients, care should be taken to perform the task thoroughly, expeditiously and gently. Do not

* See Special Caution on page 101, with reference to POISONS

leave unwashed such parts of the body as the neck and under the arms. Always dry every part of the skin thoroughly after washing, and avoid scratching or injuring the patient's skin by wiping it with a hard hem or other rough part of the towel.

Septic Matter.—The great objection to dirt, from a nursing point of view, is that it forms a breeding-place for harmful micro-organisms. The eye is a very untrustworthy guide. An untrained person will take vast pains to remove a smudge on the boarded floor caused by soot or mud, but will ignore a drop of pus, sputum or urine on a rug, because it is not readily seen. As regards the welfare of the patient, however, the difference between the two kinds of dirt is enormous. No fault can be found with the soap-and-water cleanliness of the charwoman, so long as it is made part of an intelligent and scientific system; alone, it is unreliable.

So far as possible, linoleum or material which can readily be cleansed should replace carpets and rugs. Wherever possible, every article of clothing which has become in the least degree soiled by any discharge should be changed at once. There must be continued vigilance in these matters. To wait until the appointed time to "get the patient ready for the doctor's visit" is to expose the patient to grave dangers. As a general rule, it may be stated that the virulence of septic poisons increases for some time after they have left the body. This is very pronouncedly the case with the virus of typhoid fever contained in discharges from the bowels. The dangers of delay are, therefore, very real. The loathsome practice of covering up filth on the bedding with a layer of clean clothes, and letting the filth itself remain, cannot be too strongly condemned.

Preventive Measures.—Floors should be scrubbed with carbolic soap. It is a good plan freely to sprinkle clean coarse sawdust, moistened with carbolic solution (1 in 20) or some other efficient disinfectant, over the floor before sweeping it. Dust in sick-chambers is always full of bacteria, and it is better, therefore, to avoid sweeping altogether so long as the room is occupied. Should it be necessary to sweep the carpets, however, an enclosed box containing revolving brushes should preferably be used. The carpets or boards should be thoroughly washed over every day with

a cloth wrung out of dilute carbolic acid solution, made by dissolving 'Soloid' Carbolic Acid, gr. 60, in a pint of water. In washing the patient, water that has been boiled, and some non-irritating soap, such as * 'Dartring' Lanoline Toilet Soap, should be used, and special attention should be directed to parts such as the armpits, umbilicus or navel, toes, etc., where the waste products of the skin accumulate. It is a good plan to sprinkle a little antiseptic dusting powder on such spots after drying them, and also about the nates, perineum and pubes.

Ichthylol has a high reputation in the treatment of various skin affections. When incorporated with a fine superfatted soap like that of 'Dartring' Lanoline, it is of great value as a preventive agent for use in cleansing bed-sores, freshly-cut wounds and boils and for chaps, chilblains, etc. In roughness, blotches and eruptions of the skin, the affected parts are treated with water, as hot as possible, and 'Dartring' Lanoline Ichthylol Soap. The hot soap lather may be wiped off, and the parts dusted with a simple unscented dusting powder, or allowed to dry by exposure to the air. Application of 'Borofax' Brand Boric Acid Ointment or (when a stronger antiseptic is desired) of 'Phenofax' Brand Carbolic Acid Ointment is employed to produce a beneficial sedative and emollient effect upon the skin.

All excreta should at once be disinfected by pouring over them some of the disinfectant solution made in accordance with the recommendation of the Local Government Board Memorandum. 'Soloid' Brand Corrosive Sublimate, L.G.B.,† is used for this purpose, one being dissolved in a pint of water. So soon as the solution has been used, the excreta should be removed from the room, and the utensils carefully cleansed with some more of the solution. If the excreta be kept for inspection, the vessel should be covered with a towel wrung out of the solution. Urine which may be wanted for analysis should, however, have nothing added to it. It should be saved in a clean vessel, which must at once be covered, and labelled with the name of the patient, and the date and hour at which it was passed.

* The 'Dartring' brand appears on all labels of the original Lanoline preparations.

† See Special Caution on page 101, with reference to Poisons

Among the surroundings which make for health, cleanliness has been put first because it is the most important. This must be the all-pervading characteristic of good nursing from first to last.

THE HOUSE

The place where the patient is to be nursed is also an important matter, but it is not, as a rule, one which the nurse is able to determine. Sometimes, however, it may be possible to get a patient removed in time from quite unsuitable surroundings, if proper representations are made.

The nurse must therefore, from the outset, "look well to the ways of the house."

Drainage.—In many houses the drainage system is far from perfect, and where such is the case, the patient must be protected against injury from this unfavourable condition.

A simple and easy way to test the drains is to pour a teaspoonful of oil of peppermint down the pan of the water-closet, taking great care not to spill a drop elsewhere; the closet door should be shut, and the house carefully explored from top to bottom to discover if the odour of peppermint can be detected arising from cracks in the floors, waste-pipes of sinks, baths, etc. It is well for some person who has not been in contact with the oil of peppermint to do the exploring. Should the nurse discover defects in the drainage system, she should report the fact to the patient's friends, and will be wise to transfer all responsibility by promptly reporting the state of things to the physician in attendance. If possible, the patient should be removed. Pending his removal, or if such be impossible, the following precautions should be observed.

Precautions.—Should flaws in the drainage system, or impurity of the water of the house be suspected (they are not uncommon accompaniments of typhoid fever or diphtheria), special care must be taken that harmful influences arising from such causes do not penetrate to the sick-room. When it is impossible to remove the patient, or to have the defective sanitary arrangements put right at once, the following measures should be taken: (1) All drinking-water must be boiled, and a filter *recently* filled with fresh animal charcoal, or a Chamberland-Pasteur or Berkefeld filter, should be

employed. The ordinary cheap domestic filter is worse than useless. (2) The nurse should prepare a solution of the strength and character recommended in the Memorandum issued in 1892 by the Local Government Board, and pour this disinfecting fluid down the water-closets and waste-pipes several times a day. It is an excellent disinfectant, destroying all disease germs, but as it is poisonous it should be handled with caution, and only by the nurse, or under her close personal supervision. This L. G. B. solution is prepared by means of 'Soloid' Corrosive Sublimate, L.G.B.,* of which two should be dissolved in a quart of water to make the requisite disinfecting solution. (3) The windows in the passages, etc., especially those near the suspected spot, must be kept wide open night and day, the door of the sick-room at the same time being kept closed. The nurse must contrive that the air thus admitted can escape again without passing through the part of the house where the patient is, and can test the efficiency of her arrangements by burning a fumigating pastille near the place where the sewer gas finds entry, and taking note of the direction in which the vapour travels. If necessary, sheets soaked in carbolic solution should be hung over the doors, as in an infectious case. (4) It must be remembered that mere deodorisers, although overcoming some of the unpleasantness of a sick-chamber, have no appreciable effect upon disease germs. Above all, the nurse should never fall into the popular habit of smothering one stench with another. A foul atmosphere "sweetened" with eau-de-Cologne, pastille smoke or an aromatic deodoriser, is evidence of incompetence on her part.

THE SICK-ROOM

The top of the house is the best position for the sick-room. The air is purer, ventilation easier and, in infectious cases, an upper room is more readily isolated and is farthest away from the cooking and food supply. It should be the nurse's aim, from the moment of entering on her duties, to keep all the surroundings of the patient sweet and wholesome. If any of the appurtenances of the sick-chamber, such as the curtains and carpets, prove hindrances to attaining this end, they must be removed. At the same time zeal should be

* See Special Caution on page 101, with reference to Poisons

tempered with discretion, and the room should not be rendered more bare and comfortless than the special needs of the case demand. All soiled linen, dressings and excreta should be removed from the sick-room without delay.

No gas-stove or oil-stove should be used in a sick-room unless all the products of combustion are carried up the chimney. In every case where gas is laid on, the nurse should make quite sure that there is no leakage into the room. A very little coal-gas, mixed with the air, has a most depressing effect on an invalid.

VENTILATION

Three Essentials.—In providing for efficient ventilation, three important points must be considered: (1) The foul air must be got rid of; (2) Fresh and pure air must be admitted; (3) Draughts must be avoided. In the best circumstances it is very difficult to accomplish these several ends satisfactorily; and in a private house the difficulties are far greater than in a large hospital ward. It is, however, in the private house that the nurse has to be responsible for good ventilation. The sick-room should be light, airy, clean and quiet. The following hints, which have often proved useful in practice, deal chiefly with the difficulties in airing comparatively small rooms.

Bad Air.—It is scarcely necessary here to dwell upon the evils of bad ventilation, but there are one or two facts about which most of the standard works have little to say, and which are always worth remembering. Foul air is injurious to health, not so much because of changes which have taken place in the relative quantities of the constituents of air, as because of the organic waste materials which are added during the process of respiration. These changes occur in an even greater degree when the persons breathing the vitiated air are themselves suffering from illness. An excess of carbonic acid, or a deficiency of oxygen, has been shown to be much less harmful when unaccompanied by organic matter which is continually being given off by the human body. As a rule, however, in the sick-room the one kind of defect in the purity of the atmosphere indicates the presence of the other. The practical value of these facts will presently be shown.

Air Currents.—In every room where there is a fire the tendency is for the air, entering the room at various points, to move towards the chimney. So much is this the case that, when the chief inlet and the chimney are near together, and nothing intervenes to turn the current, a continuous draught may prevail between these two points without the rest of the air in the room undergoing much change. It is important, therefore, to distribute the fresh air that has entered, so that it may reach all parts of the room. This can be done best by screens, judiciously arranged. In the same way can be obviated a serious and almost universal defect in the ventilation system of small rooms. This is the draught which enters under the door, and which makes a cold stratum of air right across to the fireplace without rising more than a few inches. All screens should reach the floor; not only in order to distribute this thin layer of fresh air, but also to protect the feet of all persons standing or sitting in the room from what is, in effect, a perpetual cold foot-bath. Since the air nearest the ceiling is the most impure, the windows should always be kept open a few inches at the top. It is generally possible, with a little planning, to keep any direct draught so caused from the patient. A draught is most disagreeable when it comes in through a narrow aperture. It is sometimes possible to diminish a draught by opening a window more widely, so that the fresh air enters more easily. In exposed localities, a change of wind may necessitate rearrangement of the system of ventilation.

It is a good plan to learn the direction of the prevailing air currents of a room with the aid of a candle flame or a light feather. Knowledge so gained enables the nurse to avoid sitting in the current from the patient to the chief outlet (generally the chimney), a most important matter in all cases of serious illness, and obviously so when there is any risk of infection. In like manner the nurse should make sure that the invalid is not supplied with air which has been respired by any person in the room.

Temperature.—A thermometer should always be kept in the room, and measures taken to keep the atmosphere at an equable temperature of about 60° F. For very young children, old people, operation and tubercular cases, it may be necessary to keep it up to 70° F.

Screens.—The screens, of which at least two should be in every sick-chamber, should be between five and six feet high, hinged in two places, and high enough to shelter a chair. They must fit closely to the floor, and be made of such material as to be draught-proof, readily moved and easily washed. There should always be a window open at night. In cities the night air is always the purest, unless, as is rarely now the case, the sanitary system is old-fashioned, necessitating the emptying of cesspools at night.

A convenient plan to adopt when airing a sick-room is to place an opened umbrella on the bed over the patient's head, and then to spread a sheet over the umbrella so as to form a canopy under which the patient can readily breathe without being reached by air currents.

DISINFECTION

Heat.—Heat is an efficient disinfectant when used under precise and known conditions. If dry disinfection be employed, it should be conducted at a temperature of 130°C . to 140°C . [266°F . to 284°F .] for one to four hours according to the nature and bulk of the material dealt with. Much more trustworthy is disinfection by steam at 100°C . [212°F .], the best results being obtained by "current" steam. An exposure of from half to one hour in boiling water, or steam at 100°C . [212°F .], destroys the majority of pathogenic organisms. The difficulty ordinarily is to get at them and make sure that they are freely subjected to the requisite temperature. Imperfect results are due to the fact that the microbes are often protected from the heat to a greater or less extent by their position in the material to be disinfected. Chemical agents such as corrosive sublimate or mercuric potassium iodide, used in sufficient strength, are trustworthy if brought into intimate contact with the infected material, and allowed to act for a sufficiently long time. Some disease germs are very tenacious of life, and thorough methods should be used for their destruction. The custom of sprinkling some sweet-smelling deodorant is altogether futile.

Antiseptic Precautions.—In a desquamating scarlet fever case, the whole skin of the patient should be well rubbed, under the direction of the medical attendant, either with a

solution of eucalyptus oil ('Eucalyptia') in olive oil or with some other antiseptic, to prevent the minute scales being distributed in the air. 'Soloid' Carbolic Acid, dissolved in warm olive oil, is also used for this purpose. This solution has very little smell when cold, but, if desired, may be perfumed with eau-de-Cologne. In cases of diphtheria, all cups, spoons, etc., which have been used by the patient, should be sterilised by the nurse herself before they are taken from the sick-room. All the excreta (especially in cholera and typhoid) should immediately be treated with some strong germicide, such as the antiseptic solution made with 'Soloid' Corrosive Sublimate, L.G.B.,* referred to on page 57.

With an infectious case in a private house, a sheet well soaked in a carbolic solution (1 in 30 or 40) should be hung over the door, and kept moist. In washing the patient, pledgets of absorbent cotton should be used instead of sponges, and afterwards burned. 'Tabloid' Brand Pleated Compressed Absorbent Cotton is convenient and suitable. All bed-clothes should be boiled or steamed for an hour after removal. Until this can be done they should be kept in L.G.B. solution, and they must not come into contact with the household soiled linen. The bed-clothes should be thoroughly rinsed, if they have been placed in the L.G.B. solution, so as to remove all traces of corrosive sublimate. It is best to leave to the medical attendant the decision as to whether such things must be destroyed.

Obstetric Precautions.—In obstetric work, the consequences of septic infection are often very serious. Those engaged in this branch of nursing should study and carry out carefully the directions given in the article on Midwifery (see page 99).

Fumigation.—Fumigation, to be efficient, must be carried out very thoroughly. The vapour of burning sulphur (sulphurous anhydride), 'Soloid' Paraform, or chlorine gas, is a trustworthy agent. It is a good plan to use two different agents in succession, since germs differ in their susceptibility to bactericides. The following process is very thorough: (1) Strip the room as bare as possible, scrub the floor, wood-work, etc., with soft soap and water, open all cupboards and

* See Special Caution on page 101, with reference to Poisons

drawers and spread the contents about the room. (2) Before the room is dry, stop all outlets and burn one pound of sulphur to every thousand cubic feet of air. Two or three pounds will suffice for an ordinary bedroom; it should be burned in several different places. The best plan is to break up the sulphur, put it in a metal container and pour some methylated spirit upon it before lighting. The metal container should be placed in a wide shallow vessel containing cold water. (3) Close the room hermetically for twelve hours. (4) Open the windows for several hours. (5) Put the same quantity of chlorinated lime into a large basin, and fill up with water mixed with a few ounces of ordinary dilute sulphuric acid. (6) Stir up with a stick, and again seal up the room for twelve hours. (7) Ventilate freely as before. Much trouble is saved by the use of syphons and cylinders of sulphur dioxide instead of burning sulphur. 'Soloid' Paraform is used as follows: Take one for every thirty cubic feet of space. Volatilise on a dish over a spirit-lamp, and leave the room with all outlets carefully stopped for at least twelve hours. All fabrics, such as blankets, sheets, etc., should be spread out as much as possible, or, preferably, suspended from a line. Clothing should be unfolded, and all pockets turned inside out, so that the whole surface is exposed to the vapour. It is important that cupboards and drawers be left open, and that, where possible, all steel and iron goods should be removed. Although having great penetrating power, the vapour will not affect bacteria enclosed in books or between folds of material.

Personal Clothing.—The clothes which the nurse wears in the sick-room must be treated with the same rigour as those of the patient. It is a good plan to have two tin boxes, one for the working and the other for the outdoor costume. When changing, the nurse should take a bath, and see that the two sets of clothing do not come into contact. In obstetric cases, it must be remembered that gloves have several times been the carriers of infection. Pocket-handkerchiefs also are liable to spread disease.

In the absence of medical aid, the table given on pages 209 and 210 will be useful in deciding as to the period of quarantine required after infectious disease, or after exposure to the risk of contagion.

THE BED

To make a bed as it should be made for a patient who may have to be in it for hours, is an art in itself, and one to which a nurse should give careful heed. The better the bed is made the longer will it be comfortable, and the neater will be its appearance. On the mattress, which should be turned every day, one layer of thin blanket is placed, then the mackintosh sheeting, if necessary. Mackintosh sheets should, however, be avoided, if possible, as they prevent due ventilation and the absorption of moisture, and thus predispose to bedsores. The undersheet comes next, and it is the most important part of the whole bed. It should be changed or aired every day, especially if the bed is occupied for the whole of the twenty-four hours. The greatest care should be taken to stretch it tightly and tuck it in all round, so that there shall be no wrinkles in it and to prevent its rucking up under the patient's body. It is advisable in some cases to pin the undersheet to the mattress at the sides with safety pins. Bolsters and pillows should have their own coverings, and be placed above the undersheet.

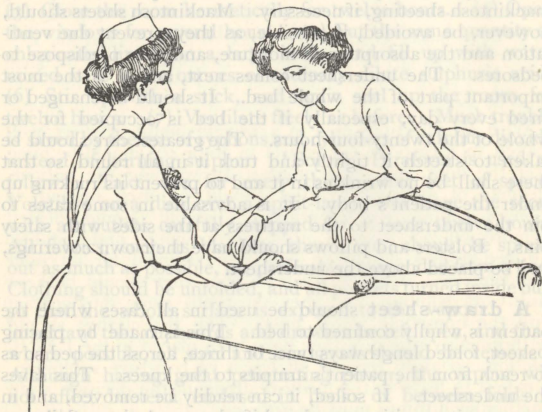
A **draw-sheet** should be used in all cases where the patient is wholly confined to bed. This is made by placing a sheet, folded lengthways twice or thrice, across the bed so as to reach from the patient's armpits to the knees. This saves the undersheet. If soiled, it can readily be removed, and in any case its position can be shifted several times daily, so as to give a fresh cool place for the patient to lie upon.

The ends of the draw-sheet at the side of the bed should be secured by either firmly tucking in or pinning to the mattress. The upper clothing consists of a sheet and one or more blankets and a quilt. The blankets should come high enough to go well round the neck, but should not be turned down at the top; any excess should be tucked in at the bottom of the bed. The sheet should be turned well over the blanket at the top, as the rough edge of the blanket is otherwise a cause of annoyance. Quilts and valances should hang clear of the floor.

Re-making the Bed for a Helpless Patient.

—If a second bed can be arranged beside the one ordinarily occupied by the patient, the changing of linen, etc., is greatly

simplified. But if the patient cannot be moved from one bed to another, then the bed must be made a half at a time. In these circumstances a large double bed is a great convenience, one half being used for the day and the other half for the night. Having removed the draw-sheet, roll the patient on to his side towards one side of the bed.



Re-making a bed for a helpless patient

Loosen the soiled sheet all round and then roll it lengthways right up to the patient. Take the clean sheet and roll or fold one half lengthways, placing it alongside the rolled-up soiled one. Spread and tuck in securely the unrolled half.

The patient is now rolled or lifted over the two rolls lying side by side in the middle of the bed on to the clean sheet. The other sheet is then quickly removed and the remainder of the clean one unrolled and spread out smoothly.

Where a narrow bed is being used a similar process may be carried out.

The upper sheet may be renewed without moving the patient. The sheets and blankets are loosened all round the bed, and fresh ones are laid on top of them. One nurse



Changing the undersheet by rolling from top to foot of bed

holds the corners of the new clothing firmly at the top of the bed, while another nurse pulls out the soiled sheets, etc., at the foot.

The nurses stand on either side of the bed, and beginning, this time, at the top with the clean sheet in a roll, they place their hands under the patient, gently rolling up the old sheet and unrolling the new.

THE PATIENT

The patient is the constant centre of the nurse's interest. Her observations will be of the greatest use to the visiting physician, if they are recorded exactly and faithfully. The art of careful observation of essentials is one which can be cultivated by practice. Never generalise nor offer opinions; give facts, and those from your own knowledge, not from hearsay.

The following details should form the basis of your report :—

Temperature.—This should be taken twice daily, or oftener. When using a clinical thermometer, the nurse must first make sure that the mercury has been shaken down well below the "normal" mark (98.4° F.). It is a good rule always to look at the index immediately before using the instrument. Many a patient with a normal temperature has been reported as highly feverish through the neglect of this precaution. When the temperature is taken in the armpit, the nurse must be sure that the skin is perfectly dry, that no clothing is interposed between it and the thermometer and that the patient is properly covered up so soon as the instrument is in position.

If the patient has been sitting up, or has been partly uncovered immediately beforehand, it is best to allow five minutes before taking the reading. More sensitive thermometers are also made which will register in one minute or even less, the time necessary being usually indicated on the back. The time indicated as requisite should in practice be exceeded, whenever possible. If no time be stated, it is safer to assume that the thermometer requires five minutes to register correctly. It is false economy to use cheap clinical thermometers, especially those of foreign manufacture. If a thermometer be employed for many patients, it should be very thoroughly cleansed after each use. If an antiseptic be employed for the purpose, all traces of the antiseptic should be subsequently removed with water. A thermometer should never be washed in hot water.

When a thermometer is inserted into the mouth, the bulb which contains the mercury should be placed beneath the tongue rather to one side, so that it rests about opposite the middle molar tooth. The patient must keep his mouth shut and breathe through his nose, otherwise the passage of cold air through the mouth will prove a source of error. When dealing with a child or a novice, it is well to caution the patient against biting the thermometer. It is often necessary for a nurse to busy herself about other matters while a temperature is being taken, but she should never forget about patient and thermometer until her attention is called to the matter at some subsequent period! It is customary in some hospitals to take the temperature of small children

in the rectum. Unless this method be specially ordered by the medical attendant, it should never be used in private practice. The obvious difficulties in obtaining the temperature of restless young children can easily be met by placing the thermometer in the fold of the groin, and flexing the thigh upon the body.

Pulse—taken at the same time as the temperature. Count the number of pulsations per minute and note the character of the beat. The average pulse is—

In men	...	...	...	...	60-70
„ women	...	...	...	...	65-80
„ children above seven years	...	...	...	...	72-90
„ children from one to seven years	...	...	...	...	80-120
„ infants	...	...	...	...	110-130
at birth	...	...	...	...	130-160

A pulse of from 100-115 is described as frequent, 115-140 as rapid, and over 140 as running.

Respirations.—The respiration, being under the patient's control, should be counted without his knowledge. To do this, count while still holding your fingers on his wrist as though taking the pulse. Watch the rise and fall of the chest wall and count the inspirations. The normal rate of respiration is :—

16-18	per minute in adults.
20-24	„ „ „ children.
24-30	„ „ „ infants.

Food.—The amounts taken at various times should be noted in the report at the times when given, and, in addition, the various amounts should be added together so as to show at a glance the total quantity of milk, beef-tea, solid foods, etc., taken in twenty-four hours. *See* section on Food and Dietary, *page* 137.

Sleep.—The times, duration and nature should be noted, whether natural or disturbed, quiet or attended by delirium.

Special Symptoms should also be carefully noted and reported to the physician, the nurse taking care to set down whatever has been observed, whether it be what she expects and can explain, or not. The nurse should beware of attempting a diagnosis which is quite beyond her functions.

Movement of the Bowels and Urine.—Movements of the bowels should be noted upon the chart, and anything abnormal in the consistence, colour or amount of faeces reported. The urine should be observed, and, if necessary, measured. In some cases the nurse may be required to apply some of the simpler tests for the analysis of urine, particulars of which will be found at *page 177*.

Medicines.—Note the times at which medicines are given, and any special symptoms arising therefrom.

It is well to keep all medicines in a safe place where they cannot be damaged by heat, light or the breakage of containers, and where there is no risk of unauthorised additions being made to them. Special care should be taken with the storage of poisonous preparations, such as, for instance, many 'Soloid' brand products. They should always be kept under lock and key.

The nurse must always read the physician's directions very carefully before administering medicine, and, while in charge of a case, must not depute this important work to others. The bottle should be kept in a cool place and tightly corked. This rule is important because the medicine may contain volatile drugs or those liable to decomposition. Whenever there is the least sediment, the nurse must shake the bottle thoroughly so that all undissolved matter may be evenly distributed. If the sediment persistently adhere to the bottom of the bottle, the bottle should be turned upside down when shaking. The medicine must not be poured out and left for some time in an open glass. In order to ensure an accurate dose being given, a properly graduated measure-glass is to be employed—spoons cannot be depended upon.

If the dosage be ordered in spoonfuls, it is convenient to know that a domestic teaspoon is reputed to hold about one fluid drachm, a dessertspoon between two and three fluid drachms and a tablespoon about four drachms, or half an ounce. Wine-glasses vary much in size, the limits being about two to four ounces. All these measures are only approximate, however, as domestic teaspoons sometimes hold less than one drachm and occasionally as much as three. Measuring by drops from the lip of a bottle should be avoided where practicable, as they vary within wide limits.

With the concurrence of the physician, doses in drops should be measured by means of a minim measure.

How to handle a Patient.—Two persons will be required to move an adult patient who is quite helpless (*see page 70*). Lifting may have to be done with special precautions in some cases, or may be forbidden altogether. In all such doubtful and dangerous cases the doctor's advice and permission, as to moving the patient, must be obtained.

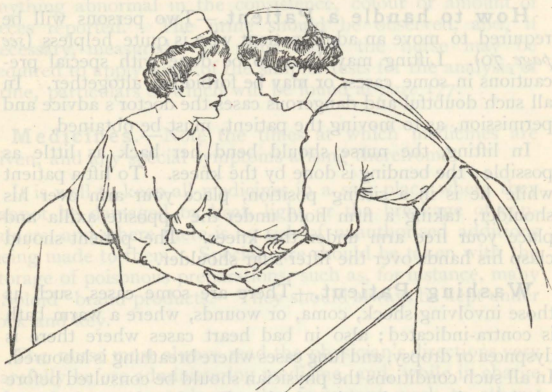
In lifting, the nurse should bend her back as little as possible; the bending is done by the knees. To lift a patient while he is in a sitting position, place your arm over his shoulder, taking a firm hold under the opposite axilla and place your free arm under the knees. The patient should clasp his hands over the lifter's far shoulder.

Washing Patient.—There are some cases, such as those involving shock, coma, or wounds, where a warm bath is contra-indicated; also in bad heart cases where there is dyspnoea or dropsy, and lung cases where breathing is laboured. In all such conditions the physician should be consulted before administering a cleansing bath. But for the majority of patients a thorough washing of the whole surface of the body is a most salutary procedure. The method must depend upon the degree of helplessness present in the patient.

The skin in disease is often getting rid of much poisonous matter, and it is most important that it should be kept clean in order to facilitate this action. In washing a patient in bed a mackintosh should be spread on the undersheet, and care should be taken not to expose too large a surface of the body at a time. Each part should be dried and covered up before going on to the next. If any pediculi are found in the patient's clothes, hairy portions of the body should be carefully examined and the hair of the head cut short or shaved if necessary.

Baths.—Whenever possible, a thermometer should be employed to test the heat of the water before giving a bath. In no case should a nurse allow a patient to enter a bath until she has ascertained its temperature. If a thermometer be not available, the nurse can roughly test the temperature by immersing her hand, or, better still, her elbow, in the water. Patients have at times been placed in baths at temperatures far too high, and have been even

fatally scalded. If the rule of first ascertaining the temperature be always adopted, such accidents will be avoided. It



Position of hands when about to lift a patient



Nurses preparing to lift a helpless patient

has also happened that a child has entered a bath containing water almost at boiling point, while the nurse has left for a

moment to fetch cold water to add to it. Such a mistake could not occur if the rule were followed of putting in the cold water first, and adding the hot until the required temperature was reached. The water for a cold bath should be from 65° F. (18.3° C.) downwards; for a tepid bath, it should be about 90° F. (32.2° C.); for a warm bath, 98° F. (36.7° C.), or about the normal temperature of the body; and for a hot bath, from 98° F. (36.7° C.) to 106° F. (41.1° C.). Occasionally temperatures other than these are recommended, but it is best for a nurse, when acting on her own responsibility, not to exceed those here given. The effect of a bath is influenced quite as much by its duration as by its original temperature. As a rule, in the case of an invalid, from five to ten minutes is quite long enough. When the relaxing effects of a warm bath are desired, or when it is sought to influence the general temperature of the body—as in the case of typhoid fever—the patient may of course be required to remain in the water for a longer time. Warm and thoroughly dry towels, bath-sheets and clothing, and the avoidance of delay during the drying and dressing processes, will always enable a patient to avoid “catching cold” after a bath.

Vapour baths can easily be arranged by means of a steam-kettle without moving the patient from his bed. A waterproof sheet should be placed under the patient, and the bed-clothes raised upon a suitable cradle. The blankets should be well tucked in at the sides, and steam admitted from the kettle. Needless to say, the whole process requires continual vigilance on the part of the nurse in charge. It is well to have in readiness, wherever possible, a well-warmed bed, into which to transfer the patient immediately the steaming and drying processes are ended. (See also Table “Medical Baths in Common Use,” page 211.)

Bedsore.—Moisture, wrinkles of the skin or crumbs in the bed sometimes produce bedsore, especially if the vitality has been lowered by high fever, paralysis or old age. They are, however, regarded as a reflection upon the nursing, since they can be avoided in almost all cases by taking proper precautions. Involuntary micturition and movements of the bowels should be provided against by placing a large pad of absorbent material, with a foundation of several thicknesses of paper, beneath the patient.

Crumbs should be brushed out of the bed after each meal, and the oversheet kept smooth and dry. The bony prominences, such as the back of the head, ears, shoulder blades, lower end of the spine, etc., are most likely to be affected, or, in a corpulent person, under the folds of the flesh on chin, abdomen or breast.

The parts of the body subject to pressure may be protected by the use of rubber air cushions with central opening, which should be inflated only just enough to keep the parts off the bed. When hard they are very uncomfortable. If, in spite of precautions, sores develop, the patient should be put upon an air bed, and the parts washed gently with warm water and 'Hazeline' at least four times during the twenty-four hours, and, after drying, dusted with starch and zinc oxide or boric powder.

TYPES OF PATIENTS

Children.—The nursing of children requires the greatest patience and vigilance. Their condition, especially in febrile states, changes much more rapidly than that of adults; hence they must be watched with the greatest care. They are specially liable to delirious attacks, fits and convulsions. Habits of cleanliness should be inculcated from the first. Old and dirty toys must be avoided.

In cases of diarrhoea in young children, in the absence of the medical attendant, it is usually safe to give a dose of castor oil at once. In hot weather such cases may soon assume a serious aspect. An attack of summer diarrhoea must always be reported to the medical attendant at the earliest possible moment.

Unless constantly inspected, washed and otherwise cared for, weakly and strumous children with joint affections are liable to serious bedsores.

For duties in connection with new-born infants, *see* Midwifery Section, *page* 99.

Convalescents.—The task of coaxing back to health a patient whose vitality has been lowered by a serious illness is one which calls for the highest qualities of the nurse. Womanly sympathy and good sense are even more essential here than technical skill. The return to the normal habits of life must be gradual and cautious. On first rising from a bed

of sickness, twenty minutes at a time will be enough for the patient to remain in a chair, and on his taking his first walk, the nurse should note any indications of fatigue, such as pallor or fluttering pulse, and seek to limit exercise accordingly. The physician will give directions with regard to food and stimulants (if any). (*See* Food and Dietary, *page* 137.) Owing to the weakened state of the digestive organs, a food which presents nourishment in a highly concentrated form, and also helps to digest other foods, is a great desideratum. 'Kepler' Solution (of cod liver oil in malt extract) is ideal for this purpose, and may be given with advantage immediately after each meal. 'Bivo' Beef and Iron Wine is an excellent restorative and stimulant suitable for use during convalescence. A tablespoonful may be given to adults twice or thrice daily.

Fever Patients.—Fever accompanies many diseases, but the term is here used especially to indicate certain specific febrile disorders.

Degrees of fever have been recognised as follows:—

Temperature under 101° F. is slight fever.

„ „ 103° F. is moderate.

„ „ 105° F. is high.

It is in regard to the nursing of infectious fevers, such as smallpox, scarlet fever, diphtheria, typhus and typhoid, that very special precautions require to be taken.

When it is necessary to nurse an infectious fever in a private house, the room or rooms occupied should be isolated from the rest of the house and no one be allowed to enter except by permission of the doctor or nurse. The room must be dusted daily with a duster moistened with disinfectant. The patient must be kept scrupulously clean. The mouth should be cleansed before and after each feeding. When desquamation begins, the skin should be anointed daily with some oily substance to prevent the dissemination of detached particles. Dishes used by the patient and nurse should be placed in a metallic vessel containing water. This vessel should be draped in a sheet wrung out in carbolic solution (1 in 40) and placed outside the isolated room. Bed linen, towels and such articles should be carried to the kitchen in a sheet wet with disinfectant, and boiled for half an hour. After recovery, the

patient should be given a warm bath with perchloride solution, 1 in 5000 ('Soloid' Mercury Perchloride, gr. 1.75,* one product to each pint of water), then wrapped in a clean sheet and taken to another room to be dressed. During the progress of the disease, the nurse should never leave the room without washing her face and hands with perchloride solution, and should then put on a gown, to be kept hanging under a sheet outside one of the isolated rooms, before going through the house.

For her own protection she should observe the following rules: Take a daily walk in the fresh air, disinfect and wash hands before meals, rinse the mouth with 'Opa' or other antiseptic mouth-wash. Avoid taking meals in the sick-room, if possible, but if this be necessary, the tray should never be allowed to stand uncovered. When irrigating a diphtheria patient's throat, the nurse should wear glasses to protect her eyes. Avoid touching the face, especially near the mouth and eyes, with the hands when nursing any fever patient. At the termination of the case the nurse must be disinfected in the same way as the patient.

The Feeble-minded.—Looking after feeble-minded children is a duty which occasionally falls to the trained nurse.

About twenty-five per cent. of the weak-minded children turn out to be epileptics, and ultimately require care in an hospital or other institution.

Children of this type are best removed from the mother and placed under the care of a special nurse at the age of five years. Attention to the proper manner of taking meals and of responding to the calls of nature is important.

The Insane.—The care of the insane comes also among the duties of the nurse even in the course of private practice, since the trend of opinion at the present day is to attempt the nursing of all early mental cases in private homes, where possible, before sending them for treatment to hospitals or asylums.

The cases so dealt with are usually those of persons whose minds are weakened from old age or as the result of epilepsy, or who are suffering from gross lesions of the brain, cerebral tumours, hemiplegia, etc.

Cases exhibiting marked excitement, suicidal or homicidal mania, must necessarily be removed to the safe custody of an asylum.

Tact, patience, sound judgment and alertness are essential to the mental nurse. She is expected to be at once maid, companion, nurse and friend, and in order to exercise proper control it is necessary for her to study carefully the character of her patient.

It is also her duty to report all changes to the attending physician, and the careful and exact observation of the trained nurse is here of great assistance. The following points should be made the subject of such a report:—

- (a) the food and drink taken and the state of the bowels;
- (b) the amount of exercise and length of time in the open air;
- (c) the temperature, pulse and respiration;
- (d) the weight;
- (e) the amount of sleep;
- (f) the chief mental symptoms—especially any impulses hurtful to herself or others, which have developed;
- (g) any struggles or accidents; and
- (h) the administration of medicines.

It is important to remember, in regard to mental nursing, that the ordinary symptoms of some bodily ailment may be absent or perverted. The insane person may neither cough nor complain of pain under conditions which in an ordinary patient would give rise to these warning symptoms. The nurse has therefore to keep an observant eye on any objective signs of disease which may present themselves, and promptly report them to the physician in charge.

For periods of quarantine for infectious diseases, *see page 209.*

SPECIAL DUTIES AND GENERAL HINTS

Under this heading are given a few hints upon duties requiring special skill and care for their proper performance.

Enemata, etc.—The nozzle of the enema syringe must be well lubricated, preferably with 'Hazeline' Cream or 'Borofax' Brand Boric Acid Ointment, and

* See Special Caution on page 101, with reference to POISONS

introduced very gently, with a slight twisting movement, for about $1\frac{1}{2}$ inches. The buttocks are then compressed on the nozzle. A larger quantity of fluid may often be retained by introducing it very slowly, and by having the buttocks raised so that the fluid flows downwards. After withdrawing the nozzle, the patient should be told to try and retain the enema for ten to twenty minutes. If the rectum be irritable, there should be an interval of a few seconds between each compression of the bulb of the syringe. Extreme care must be taken not to inject air when administering an enema or a vaginal injection, by making sure that the fluid fills the tube and nozzle at the moment when it is inserted. Clumsiness, sufficient to cause unnecessary suffering, is quite inexcusable in a nurse, and is sure to be observed by the patient and the patient's friends. When there is the least difficulty, owing to external swelling, etc., as is often the case after parturition, the nurse must never fail to obtain a good view of the parts, so that she may know exactly what she is doing. This rule applies with even more force to the use of the female catheter. A glass catheter should be used when possible, as it can be sterilised by boiling. The nurse's hands should be carefully washed and soaked in an antiseptic, and the vulva and urethral orifice of the patient should be well cleansed. Care should be taken that the catheter does not pass into the vagina. If this happen, the instrument must be re-sterilised before again being used. In the treatment of general peritonitis it is often necessary to give continuous rectal infusions of normal saline (made from 'Soloid' Sodium Chloride) while the patient is propped up almost into a sitting position. The fluid should be administered at the rate of one and a half to two pints every two hours. A vaginal nozzle should be used in such cases and so arranged that it will not fall out of the rectum. This can be done by fastening it to the thigh by adhesive strips. The flow must be maintained by gravity alone, there must be easy flow into and from the bowel to prevent over-distension and expulsion.

The ordinary soap-and-water enema, such as is employed to unload the bowel, may, if desired, have two ounces of olive oil or castor oil added to it. The best way of giving a turpentine enema is to stir a fluid ounce of ordinary oil of turpentine into half a pint of starch mucilage, made by boiling one dessertspoonful of starch in ten ounces of water. It is always better to have such things prepared by the

patient's chemist. At times it is advisable to give the turpentine with soap and water instead of with starch. Glycerin is now frequently ordered as an injection into the bowel. A special glycerin syringe should be used. As a gentle laxative it is better to administer glycerin in the form of Glycerin 'Enule' Suppositories.

Suppositories.—The old-form glycerin suppositories, made with gelatin basis, have been superseded by those prepared by Burroughs Wellcome & Co. The latter contain 95 per cent. of glycerin, whereas the percentage in the older variety was much less, and the size considerably larger than that of the B. W. & Co. preparation. In addition to this important advantage, a special modification in shape has been made, as shown in the illustrations on page xxvi. As is well known, the usual shape of a rectal suppository has been that of a cone with a rounded apex, but the difficulty of readily introducing it into the rectum and of ensuring its retention, on account of the action of the sphincter muscle, has led to the introduction of this improved shape. The great advantage of the 'Enule' Brand Suppositories becomes apparent when it is remembered that the pointed bulbous end is inserted first, and that as soon as the greatest diameter has been passed, expulsion of the 'Enule' Suppository is prevented by the contractile force of the sphincter muscle, which makes retention of the ordinary conical shape often so difficult. This improvement has received great commendation from the medical profession, and its adoption has become general. Each 'Enule' Suppository is encased in a covering of tin-foil which is placed in position by machinery, thus avoiding contamination during the process. The protective covering prevents the ingredients from deterioration by exposure to the air. The sheath of pure tin-foil is readily removed at the moment of using. The 'Enule' Glycerin Suppository possesses the further important advantage that it will keep for any length of time in all climates and yet retain its complete activity. In addition to glycerin, a number of medicinal and nutrient 'Enule' Rectal Suppositories are prepared in the improved shape. A little 'Hazeline' Cream may be smeared over the suppository if it be thought that there may be any difficulty in inserting it.

It may be appropriately mentioned here that the arbitrarily coined word 'Enule' is a brand which designates fine products

prepared by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering, and the nurse should ascertain that no other make is substituted.

Swedish Movements and Massage.—Massage combined with gymnastic exercises have been regarded as remedial agents from the earliest times. Their use was advocated in Sweden in 1813 by Peter Henry Ling, and largely by his efforts there was established in that year the Royal Central Institute of Gymnastics.

The Swedish system, which was revived by Mezger of Amsterdam in 1860, has been largely adopted for educational, medical, military and æsthetic purposes in the training of the body.

It includes massage and also active gymnastic movements, designed to give systematic exercise to all the muscles and tissues in turn.

This form of treatment has received much attention of late years, and has become very popular. Special training and some practice are necessary in order to carry out in detail the more elaborate methods now in vogue. Massage is essentially a thorough kneading and rubbing of the muscles with a minimum of friction to the skin. Each muscle should be rubbed from end to end, the pressure being regulated according to its thickness, and chiefly exerted in the direction of the heart, so as to aid rather than retard the venous circulation. Where the muscles are very thick and fleshy, a firmer touch and a kneading or pounding action are advisable.

Massage should be undertaken only under the direction of a physician. Pressure is applied in various ways to the parts affected, the methods employed being described as follows:—

EFFLEURAGE consists of stroking with the finger tips or with the flat of the hand, always from the periphery towards the heart.

PETRISSAGE is a deeper kneading movement, in which all the muscles and tissues are acted upon with one or both hands.

The muscles are stretched away from the bone in the direction of the venous current.

Begin above and work downwards, never allowing the hand to move on the skin.

TAPOTEMENT or percussion may be given with the ulnar edge of the hand, the palm or the tips of the fingers.

FRICTION is given with the flat of the hand, the cushion of the thumb or the fingers. The movement should be circular, and considerable pressure may be employed when not too painful.

The terms vibration, rotation, flexion, sufficiently describe other movements. Active movements are either single, assistive or resistive. The single movements constitute educational gymnastics as ordinarily practised.

Assistive movements go with those of the patient; resistive movements, against them.

The nurse's knowledge of anatomy forms a good preliminary qualification for the work of a masseuse and for the superintendence of gymnastic exercises, but a special course of study and instruction is necessary before commencing this work.

As a lubricant to the surface, 'Borofax' Brand Boric Acid Ointment is found to answer admirably, since it never causes irritation as do certain of the other preparations commonly used for this purpose. On the contrary, 'Borofax' Brand Boric Acid Ointment relieves irritation and is a very soothing and emollient application for massage. In some circumstances dry massage is employed with or without the use of a dusting powder, such as the finest powdered oatmeal.

Poultices.—Crushed linseed is better than linseed meal for making poultices. The former contains all the oil of the seed, and retains the heat longer. The basin in which the poultice is to be made is warmed by allowing boiling water to stand in it until the moment it is required. It is then emptied and as much boiling water as necessary is poured in; then the nurse, stirring briskly and constantly with a spatula in one hand, drops in a sufficiency of the crushed linseed with the other. This should be done carefully so as not to get the poultice too stiff, as the linseed thickens if the water is boiling. Experience alone will teach the exact quantities of each ingredient to use, but the quantities usually employed are four ounces of crushed linseed to half a pint of boiling water. With a spatula, or a broad table-knife, the mass is

spread quickly and evenly over a piece of soft linen or calico cut to the same shape as the poultice it is desired to make, but about an inch and a half larger in each direction. Usually the poultice, when spread, should be about half an inch thick. The spatula should now be dipped in boiling water, and run quickly two or three times over the surface of the poultice. This tends to prevent it sticking to the skin. The edge of the linen is folded inwards over the mass of the poultice. The surface which is to come next to the patient's skin may be covered with soft gauze or muslin, or applied without such preparation, according to the state of the skin.

Be careful not to put the poultice on too hot, especially when a patient is delirious or insensible. Generally, it is a good plan to cover the poultice, after it is applied, with flannel or cotton wool to retain the heat. When a poultice is taken off, and is not to be repeated, the nurse should immediately place a piece of *dry* and *warm* cotton wool of the same size over the part. If this be done, it is unnecessary to wipe the tender skin which has been covered with the poultice, except to remove any particles which may adhere.

It may here be mentioned that dry heat, applied by means of hot dry flannels or hot bran bags, will frequently relieve pain.

Fomentations or Stupes.—Another method of applying moist heat is by fomentations. Flannel, flat sponges, spongiopiline and other materials are used. One of the most convenient is 'Tabloid' Boric Lint.

The stupes are wrung out of boiling water; they must not be too moist, or a blister will be raised on the skin. They should be applied as hot as can be borne, and covered with oiled silk and absorbent cotton or dry flannel.

Electrical treatment is used in cases of local paralysis, in neurasthenia and in certain forms of mental disease. Patients undergoing the various forms of treatment which come under this heading require the services of a nurse who has received special training.

The amount of electricity which passes through a wire in unit time is called an ampère, but in medicine one-thousandth part of an ampère—that is, a milliampère—is used as the standard. Not more than five to fifteen milliamperes are

used in giving a medical electrical treatment. The human body is not a good conductor; it offers a certain resistance to the passage of electricity through it. The resistance offered to the passage of electricity is measured in terms of a unit called the Ohm.

The following methods are employed in electrical treatment:—

(a) Static or electro-static electricity is derived from a machine in which circular glass discs in pairs are enclosed in an air-tight case. The discs revolve in opposite directions, generating a current which collects at one of the two metal conductors in front of the machine. To insulate the patient, he is placed on a low platform with glass legs.

(b) Current electricity is generated by direct chemical action in a small battery. More usually the current is obtained from a generating station through a wire (similar to those laid on for electric light), the voltage of which is known, and can be controlled by a switch-board. Current electricity, as applied for medical purposes, is of various kinds. The galvanic current is continuous, and is passed from the positive to the negative pole; the faradic current is interrupted from 50 to 100 times a second; the sinusoidal current is similar to the faradic, but gentler and more even. The "high frequency" treatment, so called from the immense number of interruptions in the current, is used in cases of rheumatism, gout or general debility, and locally for diseases of the skin and mucous membrane.

On the electrical switch-board the positive terminal is indicated by a + sign, and the negative by —, and to these terminals are attached wires or leads. The treatment prescribed may be either anodal or cathodal.

In the anodal treatment, the current passes from the positive terminal by means of the anode wire and the attached electrode to the body, while the indifferent electrode is merely used to conduct the electricity back again from the patient, and is attached to the cathodal wire.

In the cathodal treatment the two electrodes must be changed over, the one in active use being fixed to the cathodal wire and the indifferent to the anode.

Electrodes are made of various sizes and shapes, for stroking, brushing and placing in contact with different parts of the body.

In the electric bath the electrodes are in the form of large copper plates, placed at the head and foot of the bath.

For general electrification, the patient is placed on a large metal plate covered with wet flannel, which acts as one electrode. The other electrode is held by the nurse, who passes it over the patient as directed.

Electrolysis is sometimes used as a method of introducing medicaments through the skin, when it is spoken of as cataphoresis or ionic medication.

The apparatus required for ionic medication consists of the following :—

A continuous current battery, of ten to twenty cells, or a switch-board to control continuous current from the main; electrodes of pure zinc, pure copper or carbon of various sizes; and indifferent electrodes. A milliampèremeter is necessary to register the current used and the usual cords, handles, etc.

The substances used for ionic medication include salts of zinc, copper, lithium, magnesium, sodium, quinine, cocaine, etc. These are dissolved in water and used to moisten the pad of the electrode.

The solutions are usually made of the strength of one or two per cent., and can be prepared most conveniently from the 'Soloid' products, which are issued specially for the purpose. The 'Soloid' products used for ionic medication weigh each of them exactly 4·37 grains, or 0·283 gm. One, dissolved in 1 oz. (28·4 c.c.) of distilled water, gives a 1 per cent. solution.

Night Duties.—When taking night duty in a private house, a nurse should always have in readiness coal or other fuel in paper parcels. The presence of the paper prevents noise, and enables each packet to be handled in a cleanly manner. If the nurse be provided with a pair of housemaid's gloves, the paper is, of course, unnecessary. It is a good plan to use a stick to poke the fire, as it makes much less noise than a metal poker. Unless there be some special reason for maintaining a high temperature, the room should be

allowed to become at least five degrees cooler at night than in the daytime. This conforms to a law of Nature to which living creatures all the world over have become adapted.

In preference to an easy chair the nurse should choose a straight-backed one to sit in. It will help her to keep awake during the night (at times a matter of extreme difficulty) and will contribute to sleep at the proper time.

Conduct.—The nurse must cease talking to an invalid the moment he shows any sign of being fatigued, and must insist on others strictly observing this rule. She should never gossip about other patients or doctors. A good nurse will bring into the service of her profession all her womanly tact, quickness of perception and sympathetic intuition as to her patient's wishes. If an invalid be irritable she does not argue with him, unless to let him have the better of the argument as well as the last word. All unnecessary noise in the sick-room should be avoided. Creaking shoes and rattling windows or doors should be seen to. **The nurse must neither whisper nor discuss the case in the patient's presence, or even outside the bedroom door.** Whispering is likely to be very annoying to the patient. If some rule or proceeding which has been adopted prove specially irksome to the patient, the nurse should appeal to the doctor, in the patient's hearing, to have it altered if possible.

General Hints.—In changing a patient's night clothing, the nurse must take care that the clean articles are not only thoroughly dry but *warm*. She should never neglect to apologise for giving even necessary discomfort or inconvenience, either to the patient or his friends.

Hot-water bottles should invariably be enclosed in properly-adjusted and well-fitting flannel covers.

Unless special orders have been given as to warmth, the temperature of a sick-room is to be kept at about 60° Fahrenheit (15° C.).

If any visitor call, the nurse must endeavour, with all possible courtesy and tact, to arrange the interview so that her patient may not suffer. She should always place a chair in such a position as to enable the visitor to sit within easy range of the patient, and facing him.

'Tabloid' Brand Products.—'Tabloid' Brand products are largely prescribed by the medical profession. The nurse should bear in mind that the word 'Tabloid' is a trade mark which designates the preparations issued by Burroughs Wellcome & Co., and, to ensure the supply of reliable drugs, the word 'Tabloid' should always be specified when ordering. Imitations are always inferior, and sometimes deleterious, and the nurse should therefore assure herself by careful inspection that the genuine 'Tabloid' products are supplied. By doing this, and so guarding her patient against the substitution of inferior products, the nurse will render him a great service, and will have the satisfaction of knowing that by her care and alertness she has secured for him preparations containing drugs of undoubted purity and reliable therapeutic activity. Should substitutes be offered, they should be refused and returned, and complaint of the imposition made to the physician.

Many patients can easily take 'Tabloid' Brand preparations when other medicines produce unconquerable feelings of aversion. This is specially so with nauseous or unpleasant drugs, 'Tabloid' products of which are coated with a readily soluble film of pure white sugar. They are easy to swallow, and their appearance and taste make them acceptable even to children or the most fastidious patients.

By using 'Tabloid' products the trouble of weighing or measuring is avoided, accuracy of dosage is assured and the danger of over-dosage is reduced to a minimum. These advantages the physician and the nurse appreciate, especially when medicines have to be administered during the night, or when the room is darkened.

In some cases the physician may give directions that the 'Tabloid' products are to be dissolved in water before being taken, but in all cases in which they are swallowed intact they should be administered with a sip of water. The prescriber may instruct the nurse to powder some varieties of 'Tabloid' drugs before administration. This may be done very conveniently in a fold of writing-paper on a table. A smart tap with the handle of a knife will disintegrate the product, and all small particles may be powdered by rubbing the knife handle over the fold.

'Tabloid' products intended for constitutional effect, such as quinine, antipyrine and caffeine compound, are so prepared that they rapidly disintegrate or quickly dissolve. Those prescribed for local effect, such as potassium chlorate and ammonium chloride, are prepared of a consistency that allows of slow solution in the mouth; prolonged and continuous action of the remedial agent on the mucous surface of the mouth and throat is thus assured.

Sera, 'Wellcome' Brand.—Sera being generally required urgently, and it being often undesirable to make mention of the illness in a telegraphic message, Burroughs Wellcome & Co. have adopted a special code relating to the 'Wellcome' Brand Sera produced in the Wellcome Physiological Research Laboratories, for which they act as distributing agents. This code is incorporated in the General Price List of Burroughs Wellcome & Co.'s Fine Products, a copy of which is supplied to every chemist. The nurse can therefore readily obtain full details of the code when such may be required by the medical man.

Arrangements are made at the London Offices for the immediate despatch of telegraphic orders for sera received between the hours of 9 a.m. and 10 p.m. on week-days, and between 3 p.m. and 4.30 p.m. on Sundays and Bank Holidays.

For note on Serum Therapy, see page 113.

'Soloid' Brand Products.—In order to minimise the risk of error, Burroughs Wellcome & Co. prepare certain chemical products, which are not intended for internal administration, of a distinctive and easily recognised shape. For example, the shape here drawn is strictly adhered to in those products issued under the 'Soloid' Brand which are intended for the preparation of solutions for antiseptic, anaesthetic, astringent, testing and microscopic staining purposes.



In the case of 'Soloid' products containing potent poisons, a further safeguard is provided by the addition of a harmless artificial colouring, which is communicated to the fluid in which the product is dissolved.

Mineral Waters.—The great value attributed by physicians to a course of mineral water treatment in certain diseases is well known to every nurse. This treatment had formerly to be carried out either by using the bottled waters which are imported into this country from the original spas, or by sending the patients to the springs in order to take the waters at their sources. The former method has the great disadvantage that from the time the water is bottled to the time it reaches the patient, many months, in some cases even years, may have elapsed; thus the water may be stale, and indeed may have undergone chemical changes. In visiting the various spas, patients have perforce to take long, tedious and expensive journeys, the strain of which many delicate persons are quite unable to bear.

The introduction of 'Tabloid' Brand Mineral Waters has obviated these disadvantages of, and obstacles to, mineral water treatment. They contain, in a most compact and unimpaired condition, the essential constituents of the natural waters, and the patient is thus enabled to convert a glass of ordinary water into a fresh draught of effervescing mineral water, which equals that of the natural spring in therapeutic activity. A continuous course of mineral water treatment is thus rendered possible in the patient's home, or wherever he may be, without any difficulty. By dissolving one 'Tabloid' product in a stated quantity of water, the draught is prepared specially each time it is required; it is therefore fresh, and, being sparkling or effervescent, the water is rendered more agreeable.

With 'Tabloid' products, the therapeutic action of Carlsbad, Kissingen, Vichy or Seltzer water (for example) may be obtained in any country. The portability and compactness of the 'Tabloid' Brand Mineral Water Salts render them specially suitable for those travelling in distant parts of the world.



SURGICAL NURSING

The Maintenance of Asepsis.—Blood poisoning, the curse of surgical practice up to a comparatively recent period, is due to the presence of bacteria, minute germs which can be seen only through a powerful microscope.

By sepsis is meant the state of inflammation of any part, accompanied usually by fever and generally terminating in suppuration, due to the introduction into it of various forms of germ-life.

Chiefly owing to the labours of Lister, the supreme importance of carrying out surgical operations in an environment free from bacteria has now been recognised, and the effort of the modern surgeon is to maintain round the site of any surgical wound a condition of complete asepsis—that is, absence of disease germs. In this difficult task he requires the earnest and intelligent co-operation of the nurse.

Of the many classes of bacteria which exist, some of them harmless and even helpful to human life, the most important from a nursing point of view are, first, those which cause contagious diseases; and, second, those which cause the formation of pus.

The micro-organisms most frequently met with in surgical cases are :—

- (1) *Staphylococcus pyogenes aureus*, which is present in the air, upon the skin, etc., and is the most common cause of suppuration.
- (2) *Staphylococcus pyogenes albus* is similar to the preceding, but is generally regarded as less virulent. It is frequently found in the deeper layers of the skin.
- (3) *Streptococcus pyogenes* is the active agent in the production of acute spreading inflammations and infections, such as erysipelas, diffuse phlegmon, septicæmia, etc., and it is commonly found in such conditions associated with the staphylococcus.

(4) The *Pneumococcus* is often present in the mouth and nose, even in health. It is the active agent in the production of inflammation of the lungs, and in surgery is chiefly met with in connection with inflammation and suppuration of serous membranes, such as the peritoneum and pleura, and of the ear and joints.

(5) *Bacillus coli communis*, a short, rod-shaped micro-organism, is a constant inhabitant of the lower part of the alimentary canal. Outside the body its presence is due to contamination of various objects with the fæces of man or animals.

(6) *Gonococcus* occurs in the inflammatory and suppurative conditions due to gonorrhoea.

The above are, as stated, the germs most frequently associated with inflammation and suppuration, but others, such as the tubercle bacillus, the bacilli of anthrax, tetanus and many other diseases, have to be considered. They are among the enemies which good nursing must help to fight. The tubercle bacillus is a small, rod-shaped micro-organism found in the various tubercular lesions of man and animals. It reaches the air in sputum, sweat, urine, the discharges from tubercular affections, etc. It soon dries and settles in dust, and in this form is very readily disseminated.

It is mentioned here because it is occasionally introduced into the body through a wound—though more usually through the lungs or the alimentary canal.

Such, then, are some of the bacterial foes against which the nurse has to contend. They are formidable even to persons in health, and their presence near a surgical wound might be disastrous, and must be obviated by every means in our power.

For the purpose of ensuring asepsis, scrupulous care is necessary in cleansing wounds, etc. This is by far the most important factor in producing asepsis; the use of antiseptics is to be regarded only as a supplementary, and not an alternative, procedure.

Bacteria may be introduced into wounds from the air, by water or anything brought into contact with wounds, from the skin of the patient, from the skin of the hands and arms of surgeons and nurses; sometimes—but rarely—bacteria are carried into wounds by the blood-stream of the patient himself.

The air of the room where a patient is about to be operated upon should be protected from inroads of dust from the street, and should be rendered as nearly dustless as possible by careful attention to all nooks and crannies where dust can collect. It has been shown experimentally that dust usually contains pyogenic (or pus-producing) organisms. The room intended for the reception of a surgical case should be thoroughly cleansed on the day before the arrival of the patient, so as to leave time for the dust and bacteria of the atmosphere to subside.

Water used for washing the patient may be a source of infection. Tap water frequently contains germs, and water which has been standing with its surface exposed to the air is obviously unfit for use; only water which has been sterilised by boiling should be employed for washing wounds or for moistening dressings applied to them. The hands and arms of all who touch or come near the patient should be most scrupulously clean, and since each pair of hands is a fresh danger, as few persons as possible should touch the patient. This extremely important factor in the maintenance of asepsis has been dealt with under Cleanliness (*see page 52*).

Bacteria may be introduced by any unsterilised substance which touches the wound, and it is therefore necessary to consider the methods by which sponges, dressings and instruments may be rendered germ-free and fit for the surgeon's use.

Sponges.—If the sponges be new, they should be thoroughly shaken and beaten in order to get rid of sand, etc. If bits of shell are present, they may be got rid of by soaking the sponges in hydrochloric acid and water for twenty-four hours (1 drachm to the pint). The sponges are then washed and squeezed out in warm water which has

been boiled, and next transferred to a warm solution of washing soda (1 drachm to a pint) for the removal of any fat or albumin.

The soda solution is removed by again rinsing in warm, sterilised water, and the sponges are finally immersed in cold solution of sulphurous acid (1 in 5) for twelve hours. After rinsing in sterilised water, they are ready for use.

When sponges are required for bathing or wiping a wound, they should be handed to the surgeon in a bowl of antiseptic solution. The bowls used must be sterilised by heat, and the antiseptic solution should be prepared from freshly boiled water, with the addition of 'Soloid' Carbolic Acid, 'Soloid' Mercury Binioidide* or other antiseptic, in accordance with the surgeon's instructions.

Sponge-making.—Owing to the rather elaborate precautions necessary in preparing natural sponges for surgical use, many surgeons avoid them wherever possible, and employ instead sterilised absorbent cotton for bathing and washing wounds as well as for dressing.

For this purpose 'Tabloid' Absorbent Cotton between Gauze is peculiarly suitable. This can be obtained already sterilised, and, owing to the germ-proof closing of the package, it remains aseptic up to the moment when required for use.

Artificial sponges, swabs and tampons of various sizes and shapes should be prepared from absorbent cotton and gauze, and re-sterilised ready for an operation. For this purpose a package of 'Tabloid' Absorbent Cotton is divided into suitable portions. Each portion is then pulled out so that it assumes the shape of a soft fleecy ball—it is then placed upon a square piece of gauze the corners of which are taken up and tied together. The ends of the gauze are cut off neatly, and the swab is then pressed gently to flatten it to a convenient shape.

In a similar fashion artificial sponges of any desired size may be made. For abdominal cases, large square ones are employed, the ends of the surrounding gauze being attached

with a few stitches. These artificial sponges possess many advantages; they can be sterilised by heat, in the usual way, and are thrown away immediately after use.

Instruments are sterilised by heat, usually by boiling for five minutes in water to which sodium bicarbonate has been added. They are then arranged, ready to hand, in a basin containing 1 in 20 carbolic lotion, or other antiseptic solution, or in a solution made by dissolving 'Soloid' Mercuric Potassium Iodide, gr. 8.75,* in a quart of water. Before being handed to the operator, they should be dipped in warm boric lotion.

Preparing for an Operation.—A few words respecting the nurse's duties in the operating room will not be out of place. It is well known to every nurse that cleanliness and surgical cleanliness are not quite the same thing. It is not sufficient that all appliances should be free from foreign matter perceptible to the eye, or that they be spotless and shining, but they must be free from infectious organisms, and must be kept so from the beginning to the end of the operation.

In every detail of preparation of her own person and all surroundings, it must be continually borne in mind that nothing should be brought near the scene of operation which has not been rendered perfectly aseptic.

Only immaculate clothing, caps and aprons may be worn in the operating room. Before touching sponges, instruments or dressings, the nails, the hands and the arms as high as the elbows must first be rendered as nearly aseptic as possible. The directions given under the heading of Cleanliness on page 52 should be carefully followed.

The care of the instruments, sponges and dressings sometimes falls to the nurse, but in large hospitals the house surgeon or instrument clerk generally takes this responsibility. In any case, it is well for the nurse to acquire familiarity with the names of the instruments, in order to be able, if called upon, to hand them to the operator without hesitation.

* See Special Caution on page 101, with reference to POISONS

* See Special Caution on page 101, with reference to POISONS

The Patient.—In hospitals the rule is usually to admit the patient at least two days before operation. Careful examination of the general condition of the patient follows; mouth, teeth, lungs, heart and urine are observed. Light diet (*see* Food section) in accordance with the physician's directions is given, and on the morning before operation a gentle aperient, such as castor oil, is administered; and previous to operations, especially on the abdomen, a soap and water enema may be ordered. A warm bath should be given on the night before the operation.

Immediately before administering the anæsthetic, the mouth is rinsed and the nose cleansed. The skin covering the site of the proposed incision is prepared the night before the operation, first by thorough mechanical cleansing with spirit soap and hot water shaving, and then by the application of a towel wrung out of alcohol and placed over the part; this latter is only removed on the operating table. The skin is sometimes painted with a 4 per cent. alcoholic or chloroform solution of iodine.

So earnest is the desire for a completely aseptic environment for the patient that many surgeons recommend antiseptic boots, gloves, overalls, sleeves, caps and masks, for themselves, their assistants and nurses. The floor at the entrance to an operating theatre is sprinkled with a solution of corrosive sublimate (1 in 1000).^{*} The site of the operation itself is surrounded with sterilised towels, and the gloved hands of the surgeon are frequently rinsed in 1 in 5000 sublimate solution during an operation, and any possible contamination implies prolonged and careful cleansing in 1 in 1000 sublimate solution, before the final rinsing in 1 in 10,000.

The care of the operating table also devolves on the nurse. She must see that the mackintosh sheet and plenty of pillows and dry warm blankets are ready. In hospitals where the surgeon uses sponges, great care must be taken to render them perfectly aseptic in the manner already described. Many operators prefer aseptic gauze or wool. Pleated Compressed Sterilised Gauze, and Absorbent Cotton, 'Tabloid' Brand, meet all requirements. Sponges should be well squeezed before being handed to the surgeon. If one fall on the floor, it must be put away at once.

^{*} See Special Caution on page 101, with reference to POISONS

The antiseptic solutions now used in operations are generally of carbolic acid, corrosive sublimate (mercury perchloride) or boric acid. These are most conveniently and readily prepared by means of 'Soloid' brand products, which have many important advantages. 'Soloid' Carbolic Acid is supplied of various weights, viz., gr. 5, gr. 20 and gr. 60, and a solution of the required strength may be made simply by dissolving one in a certain quantity of water. 'Soloid' Corrosive Sublimate^{*} is supplied in each of the following weights: gr. 1.75, gr. 8.75, gr. 17.5, 0.5 gramme and 1 gramme. One, dissolved respectively in four ounces, one pint, one quart, 500 c.c. or 1000 c.c. of water, forms a solution of 1 in 1000. If wet dressings be employed, gauze, bandages and other materials for dressings are rendered sterile by being soaked in the required solution. Those who are continually occupied with antiseptic solutions should regularly use 'Hazeline' Cream to prevent or remove the roughness of the skin which such solutions are liable to induce.

When the nurse enters the operating room, her business is to wait on the surgeon, to keep out of the way and to watch every instant to see that nothing is handed to him which has touched any doubtful surface. Should sponges be used, a second nurse should wash them, first in plain water, to rinse out the blood, then in warm antiseptic solution. Finally, they should be dipped in hot antiseptic solution, and squeezed as dry as possible before they are handed to the surgeon.

Another very important detail to remember is to **count the sponges**. This should be done carefully before the operation begins, and a **written note of their number** should be made. The nurse should not trust to memory. Neglect of this precaution has caused more than one death. Every one must be accounted for, and if any be missing the surgeon should be notified before the wound is closed.

The operation having been completed, and the dressings (which must be sterile beyond suspicion) having been applied, the patient should be removed and placed in bed. Hot water bottles, **well protected**, must be in readiness, and stimulants at hand.

^{*} See Special Caution on page 101, with reference to POISONS

After the Operation.—The room should be cleared as soon as possible of operating table, instruments, basins, etc., and while engaged on this work the nurse should keep careful watch on the patient and be ready to note any sudden change which may occur. She should feel the pulse immediately after the operation and note its rate and strength, for comparison. The colour of face and lips should be noted. Quick, shallow breathing, combined with small and rapid pulse, usually imply the presence of shock, and such symptoms should be reported to the surgeon at the earliest opportunity. Some vomiting usually occurs during recovery from an anaesthetic. The patient's head should be placed upon one side, the lower jaw held well forward and a basin placed in readiness.

The surgeon will probably give particular instructions with regard to feeding, some general directions for which will be found under the heading of Foods and Dietary. After an abdominal case it is hardly ever necessary to give much nourishment before twelve hours have elapsed. A teaspoonful of warm, weak tea is generally much appreciated. The amount of fluid given in such cases should not exceed one drachm an hour for the first day. The two chief complications which may cause anxiety immediately after operation are shock and hæmorrhage.

Shock is considered to be depressed activity of the central nervous system. The patient's movements are feeble, the face is pale, cold and clammy, the pulse small, frequent and collapsing. The head should be kept low, warmth and stimulants are necessary, hot water tins may be placed to the sides and feet, great care being taken not to burn the patient, and the body should be wrapped in hot blankets. The condition of the patient should be reported to the surgeon without delay.

Some notes on hæmorrhage will be found under the heading of First-Aid. The onset of reactionary or secondary hæmorrhage after the operation is recognised by the appearance of bright red blood soaking through the dressings. Hæmorrhage, however slight, from a wound in which suppuration has taken place, should be looked upon with grave suspicion. All cases of hæmorrhage after operation require

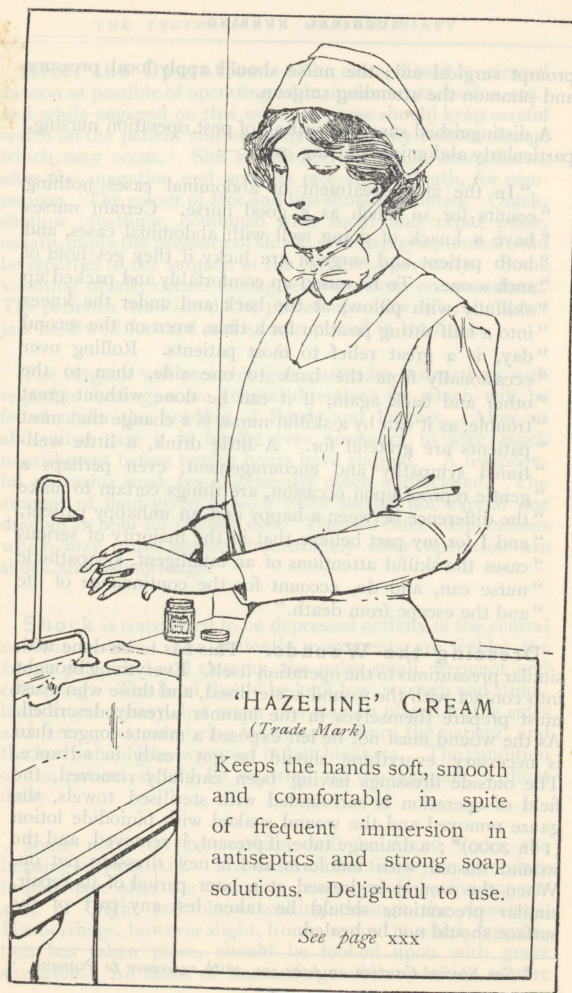
prompt surgical aid; the nurse should apply local pressure and summon the attending surgeon.

A distinguished surgeon, writing of post operation nursing, particularly abdominal nursing, says :—

"In the after treatment of abdominal cases nothing counts for so much as a good nurse. Certain nurses have a knack of doing well with abdominal cases, and both patient and surgeon are lucky if they get hold of such a one. To be raised up comfortably and packed up skilfully with pillows at the back and under the knees into a half sitting position for a time, even on the second day, is a great relief to most patients. Rolling over occasionally from the back to one side, then to the other and back again, if it can be done without great trouble, as it can by a skilful nurse, is a change that most patients are grateful for. A little drink, a little well-timed sympathy and encouragement, even perhaps a gentle reproof upon occasion, are things certain to make the difference between a happy and an unhappy patient, and I for my part believe that in the majority of serious cases the skilful attentions of an intelligent, sympathetic nurse can, and do, account for the continuance of life and the escape from death."

Dressing the Wounds.—This has to be done with similar precautions to the operation itself. Everything brought into contact with the wound is sterilised, and those who assist must prepare themselves in the manner already described. As the wound must not be left exposed a minute longer than is necessary, everything should be got ready in advance. The outside dressings having been carefully removed, the field of operation is surrounded with sterilised towels, the gauze removed and the wound soaked with biniodide lotion (1 in 2000)*; a drainage tube, if present, is removed, and the wound dusted with iodoform and a new dressing put on. When the wound is dressed at a later period of its repair, similar precautions should be taken lest any part of the surface should not be healed.

* See Special Caution on page 101, with reference to Poisons



SUGGESTED LIST OF REQUIREMENTS FOR AN OPERATION IN A PRIVATE HOUSE

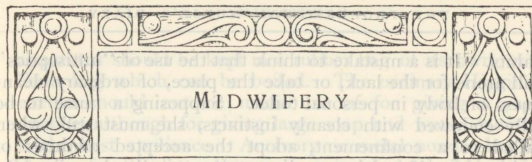
THE following list will require modification to suit each particular case, and it will be well, therefore, for the nurse to have an early consultation with the surgeon in charge, and receive from him, in writing if possible, a list of the things which she will be expected to provide:—

1. Small table to be reserved exclusively for surgeon's instruments. Strong table for patient, not too wide.
2. Firm mattress, or two blankets, folded to the size of an ordinary single mattress, covered with a mackintosh sheet. This sheet should be large enough to turn under at the sides and ends, and should be secured by strings or straps, although good safety pins will serve.
3. Pillow of horse-hair, encased in mackintosh sheet beneath the ordinary linen cover.
4. Soft towel placed conveniently for the anaesthetist, also small sponge and porringer.
5. Small blanket, or sheet of new flannel, in addition to coverings already over the patient.
6. A kettle of boiling water for emergencies, in addition to the supply for surgeon's instruments, dressings, etc.
7. Foot-warmers should be filled, and kept hot and easily accessible. A foot-warmer should never be used without a well-fitting flannel cover, and in no circumstances should a foot-warmer or hot water bottle be placed in contact with an unconscious patient, as, for example, during or after an anaesthetic.
8. Two or three pails, or a bath, into which to empty water.
9. The instruments are supplied by the operator, and put, according to his special directions, in the antiseptic solution he prefers.
10. If porringers and receivers cannot be had, the nurse must collect half a dozen basins and pie dishes. Glass dishes can be used for instruments.
11. Plenty of towels and soap. Two new nail brushes to be soaked until required in a 1 in 1000 solution of "biniodide," made by dissolving 'Soloid' Mercuric Potassium Iodide (formerly known as Iodic-Hydrarg.),

gr. 8-75, in a pint of water; or in a 1 in 1000 solution of corrosive sublimate, made by dissolving 'Soloid' Corrosive Sublimate, gr. 8-75,* in a pail of water.

12. Two or three mackintoshes.
13. Absorbent cotton, lint, antiseptic gauze, bandages or any other dressings which the surgeon may especially have ordered. 'Tabloid' Brand Pleated Compressed Surgical Dressings are most generally useful. The sterilised products are to be preferred.
14. The requisite bottles of 'Soloid' brand chemicals, together with a graduated porringer, or a glass measure. The following are the chemicals more generally used at operations: (1) 'Soloid' L.G.B., for making the special solution of corrosive sublimate enjoined by the Local Government Board, to be used for pouring over excreta, etc.—(2) 'Soloid' Corrosive Sublimate,* for preparing antiseptic surgical washes, or for making solutions for disinfecting clothing, sponges, etc.—(3) 'Soloid' Mercuric Potassium Iodide, for preparing antiseptic solutions for instruments, wounds, sponges, nail brushes, vaginal douches, etc.—(4) 'Soloid' Potassium Permanganate, for making an antiseptic fluid of very general application in the household and sick-room—(5) 'Soloid' Carbolic Acid, gr. 5, gr. 20 or gr. 60, for preparing antiseptic solutions of any desired strength.
15. Brandy, medicine glass, ball or glass syringe, etc.
16. Sponges, previously prepared precisely in accordance with the directions of the surgeon, who usually, however, arranges to bring his own. A washstand, or wooden bench for setting down basins and jugs, or cans of hot and cold water.
17. A supply of water, recently boiled and allowed to cool.
18. Bowl of ice. Safety pins.
19. 'Hazeline' Cream or 'Borofax' Brand Boric Acid Ointment, for prevention or cure of the roughness of the skin which antiseptic solutions are liable to induce.
20. 'Phenofax' Brand Carbolic Acid Ointment, as an antiseptic lubricant for hands and instruments.

* See Caution on pages 101 and 111, with reference to POISONS



THE "Rules of the Central Midwives' Board" may be obtained from Messrs. Spottiswoode & Co., Limited, New Street Square, London, post free for sevenpence (7d.). Every nurse who intends to obtain a midwife's certificate must make herself thoroughly acquainted with these rules. The following hints as to the application of the Rules of the Board to daily practice will be useful.

Cleanliness.—What has already been said under the heading of Cleanliness (*page 52*) applies with special force to midwives and monthly nurses. In Section E of the Rules, under the heading "Directions to Midwives," great stress is laid upon this. The general considerations implied embrace the following points:

1. Good health, freedom from any infectious disease, such as leucorrhoea, the absence of decayed teeth, the absence of offensive nasal discharge, the absence of otorrhoea, *i.e.* discharge from the ear, the absence of bromidrosis (foul feet), or any other unhealthy taint, such as tuberculosis (consumption).
2. A daily hot bath with the free use of antiseptic soap.
3. Attention to the hands and arms. The nails must be closely trimmed and carefully scrubbed with a suitable brush. The skin of the hands should be preserved from chaps and not allowed to become rough. Any tags of skin near the nails should be cut short.
4. Suitable wearing apparel. Underclothing should be changed frequently. The dress should be made of print, holland or other washable material which, when ironed, will present a smooth surface. Its make-up should be of the simplest character, and it should be short enough to clear the ground. The sleeves should be made to turn up above the elbow; arm-slips made of ironed white linen may be used, and these should button at the wrist and extend to the elbow. Over the dress a white linen apron should be worn. The nurse should cultivate cleanly instincts in all her

habits. It is a mistake to think that the use of "antiseptics" will atone for the lack, or take the place, of ordinary cleanliness of body in personal toilet. Supposing a nurse to be fully endowed with cleanly instincts, she must still, when called to a confinement, adopt the accepted methods of making herself and her appliances "surgically clean." (See article on the Maintenance of Asepsis under Surgical Nursing.) However much the nails are scrubbed with soap and water, they cannot be rendered germ-free by those means alone, and use must therefore be made of germicides and antiseptics, or substances which kill germs or arrest their growth. Before making a vaginal examination the nurse should wash her hands and forearms with soap and water for five minutes, using a nail brush the while, and employing at least three changes of water. The nails and fingers are then to be rubbed with swabs dipped in spirit and water (equal parts), and finally the hands and forearms are to be soaked in a 1 in 1000 watery solution of mercury binioidide or perchloride* for two minutes. As an additional precaution, thin rubber gloves may be worn by a nurse who is conducting a case of labour. The gloves should be boiled in water for ten minutes before use, and the hands smeared with a 1 in 1000 solution of mercury perchloride in glycerin before the gloves are put on. It is practically impossible, even with the strongest antiseptics, to render the parts about the finger nails germ-free, so that the safest plan to assure asepsis, so far as the nurse's hands are concerned, is to adopt the use of rubber gloves which have been sterilised by boiling.

Appliances needed in a Confinement.—In choosing the appliances necessary for attendance at a confinement, many factors have to be taken into account. Whenever possible, articles which are not injured by prolonged boiling are to be preferred; and portability is of importance, especially in district nursing. The douche-apparatus should be as simple as possible; the receptacle may be made of rubber which can be boiled, or of glass or unjapanned tin, and there should be no stop-cock. The rubber-tubing must be boiled as well as the receptacle. Nozzles should be made of glass and not of vulcanite. A pair of bull-dog clips which can be boiled should be used in place of a stop-cock. The douche should be made with boiled water. The douching

apparatus should be kept in a rubber bag of its own, or in a linen bag which can be boiled. The ordinary Higginson's enema should not be made use of for giving a vaginal douche, although for giving large soap and water enemata it is the best appliance. An ivory or metal nozzle should be chosen for the latter purpose, as it can be boiled, and the enema apparatus should also have its own case, and should not be put loose into the obstetric bag. The catheter must be made of silver, soft rubber or glass, and it is as well to possess both a hard and a soft catheter. A gum-elastic male catheter cannot be boiled, and must therefore never be used in obstetric practice. The scissors should have blunt points: sharp-pointed scissors are dangerous, and are never needed. The clinical thermometer should register the temperature accurately in at most one minute. The nail-brush should be carried in a 1 in 1000 solution of mercury perchloride. The ligatures may be made of strong thread of No. 4 Chinese silk, and must be boiled for ten minutes before use. The catheters, scissors, thermometer and ligatures may be carried in a linen case with compartments for each. Of antiseptics there are many. The mercurial preparations fulfil every indication and are therefore recommended. The binioidide and perchloride salts of mercury can be procured as 'Soloid' products from any chemist or drug-store in town or country. These 'Soloid' products are supplied in dark-blue bottles; they are readily soluble and form the most portable of antiseptics. The bottles should be kept tightly corked. One gr. 8.75 'Soloid' product of either salt of mercury, dissolved in a pint of water, makes a sterile antiseptic solution of the strength of 1 in 1000; this is the proper strength to use for the nurse's hands and for the patient's external genitals. For the vaginal douche the solution must be diluted to 1 in 2000, and for an intra-uterine douche, and also for swabbing the baby's eyes, to 1 in 4000. The best antiseptic lubricant for smearing catheters, douche-nozzles, etc., is a 1 in 1000 solution of mercury perchloride in glycerin. Carbolic oil is not germ-free.

SPECIAL CAUTION

All these preparations of mercury recommended for antiseptic use are powerful poisons, and the utmost care should be taken to use them only as directed.

* See Caution on pages 101 and 111, with reference to POISONS

Hypodermic Apparatus.—If a nurse be desirous of procuring a hypodermic syringe, she should buy one made entirely of glass; this she can take to pieces and then wrap the parts in lint and boil safely. The B. W. & Co. All-Glass Aseptic Hypodermic Syringe will be found most suitable. The needles should be short, and care must be taken to keep the points from being bent; wire should be passed through and kept in the lumen of the needle when it is not in use. The needle must be boiled before and after use. A nurse's bag must contain a preparation of ergot. The best preparation is 'Ernutin.' Five to ten minims of 'Ernutin' ('Vaporole') are injected deeply into the buttock after the expulsion of the placenta, and one drachm of 'Ernutin' (Oral) may be given by the mouth twice daily in cases where the early lochial discharge is too profuse, or where the lochia continue red after the first week. 'Ernutin' ('Vaporole') is a sterilised preparation which presents all the active therapeutic principles of ergot, and provided that the nurse has been careful to sterilise her needle and syringe, and also the patient's skin, there is no risk of infecting the patient by its use in hypodermic injections. The nurse's bag should have a removable linen lining, which may be taken out and boiled. It is essential that each appliance contained in the bag have its own washable wrapper. The obstetric bag should not be used for promiscuous articles, such as pocket-handkerchiefs, purses and ordinary gloves. Nothing but the necessary appliances and medicaments required in practice should be put into it.

Puerperal Fever.—The preceding rules as to personal cleanliness, sepsis and antiseptics all aim at one great object—the prevention of puerperal fever. Prevention is better than cure, but the nurse must know how to deal with puerperal fever should it arise. She must realise to the full that this form of infection is capable of being carried from patient to patient by actual contact. Deadly germs can lurk in the pores of the skin, in the cavities of the nails, in the eye and lumen of the catheter, in the nozzles of the douche and enema, in the wrappers of instruments, in the obstetric bag, and lastly in the nurse's clothing and gloves. Should, therefore, a nurse unhappily find herself in attendance upon a patient suffering from puerperal fever, or other infectious illness, she must comply with the rules of the local sanitary

authority; before attending another case of labour she must boil all her appliances, procure another obstetric bag and send her clothing to be disinfected and stoved by the sanitary authorities. (For instructions as to fumigating a room and clothing, see page 61.) The preceding sections refer to the nurse's duties as they concern herself. Her duties in respect to her patient must now be considered.

Gestation.—For utero-gestation tables for calculating probable date of confinement, see page 183.

Duties during Labour.—During the first stage of labour it is the nurse's duty to see that the bowels and bladder are emptied, and to ascertain whether or not the patient is suffering from a vaginal discharge. A loaded bowel and a full bladder are fruitful sources of uterine inertia. If need be, an enema must be given, and if other means fail to empty the bladder, a catheter must be passed. A nurse should never be in a hurry to pass a catheter; before resorting to its use she should try the effect of hot stupes, steam and change of position. An internal examination will be necessary to judge of the progress of labour and to diagnose the presentation. If there be a yellow discharge, a vaginal douche of 1 in 2000 solution of mercury perchloride should be given, and the patient's external genitals washed with soap and water and well swabbed with 1 in 1000 perchloride solution before the lubricated finger or fingers are introduced. A sponge or flannel should never be used for washing with soap or for swabbing with antiseptics; boiled cotton-wool is the best material, and this should be burned immediately after use. To pass the catheter the same precautions are needed, *i.e.* the use of soap and water followed by swabbing with 1 in 1000 perchloride solution. Smegma should be scrupulously removed from around the clitoris; the nymphæ should be separated, and the vestibule and orifice of the urethra exposed and cleansed. The catheter, having been boiled for ten minutes and dipped in sublimate glycerin, is passed by the aid of vision for one inch and a half into the urethra, and the urine drawn off into a suitable vessel. If rubber tubing be used on the end of the catheter, it must be boiled with the catheter before and after use. If it be necessary to use a catheter in the second stage of labour, a soft rubber instrument should be employed.

An internal examination should be made as seldom as possible, and never without good reason. The nurse should not leave the patient after the membranes have been ruptured, but should stay with her for at least half an hour after the placenta has come away. If the placenta have not come away at the end of twenty minutes after the child is born, the fundus should be grasped and pressed downwards and backwards; the placenta should be received at the vulva in the other hand, and twisted round gently to aid in the separation of the after-coming membranes. A douche should not be given except in cases of post-partum hæmorrhage. The patient should be thoroughly cleansed after complete delivery, antiseptics being used for the vulva as before. All soiled bed and other linen should be removed, the room, bedding, child and patient should be rendered perfectly clean; the nurse should take the patient's pulse and temperature, and should be sure uterine contraction is well maintained before leaving the house.

Duties during the Lying-in Period.—The nurse must give detailed instructions for the proper feeding and for securing the general comfort of her patient during the lying-in period. She must visit the sick-room daily for the first four days and keep a register of the temperature, pulse, amount of the lochia, action of the bowels, state of the breasts and of the bladder, and note the daily involution of the uterus. With regard to this latter point, it should be remembered that if the uterus be well contracted, as it should be, at the end of labour, the fundus will lie about mid-way between the pubes and navel. The next day, under normal conditions, *i. e.* if the bladder be not distended, it will be found to lie at the level of the navel. The level of the fundus now subsides about one finger's breadth daily, so that by the eighth or ninth day it will reach only to the level of the pelvic brim. After the fourth day the nurse is required to make alternate daily visits, so that she will see her patient on the sixth, eighth and tenth days. After this period, if there have been no rise of temperature or acceleration of pulse, if the secretion of milk be good and the nipples healthy, if the bowels and bladder be acting well, if the red lochia have given place to a scanty discharge and there be no pain or unusual debility, the patient's condition may be considered normal and she may get up from bed. If, however, on the day after the

confinement the fundus uteri be found to be higher than normal, and if, upon enquiry, it be found that the patient has not passed urine, a fluctuating cystic swelling may be discovered immediately above the pubes. This is the bladder distended with urine. The same methods of trying to induce an action of the bladder as previously advised should be adopted. Hot fomentations applied to the vulva and over the pubes sometimes have the desired effect. The patient may be placed on a bed-pan into which hot water has been poured; she may even be placed upon her hands and knees, since it is difficult for some women to void urine when lying in the recumbent position. Should all these means fail, the patient must be laid on her back with her knees drawn up, the labia minora held aside with the thumb and index finger of the nurse's left hand, and a boiled Jacques' or glass catheter introduced. (For the full details of the antiseptic precautions to be taken in passing a catheter, see page 103.) If piles should protrude during the first few days following labour, they should be cleansed with warm 1 in 2000 solution of mercury perchloride,* smeared with 'Dartring' Lanoline, pushed carefully back and an 'Enule' Suppository of gall and opium inserted. If the nurse cannot do this, she must send for medical aid.

Duties to the Child.—The duties of the nurse to the child begin directly the head is born. She must first see if the cord is around the child's neck, and unravel it if necessary. Directly the head is born and before the eyes are opened the lids and the surrounding skin should be wiped clean on each side with a separate piece of cotton wool. Nothing should be dropped into the baby's eyes. The face and the body should not be washed in the same water. The source of ophthalmia neonatorum is a purulent vaginal discharge containing the specific germs of gonorrhoea. In all cases where there is a purulent vaginal discharge, whether in pregnancy or labour, medical help must be obtained. Applications to the child's eyes in such cases should be made only by a medical practitioner. The best preventive measure to adopt in cases of vaginal, vulval or cervical suppuration, is the free use of a vaginal douche of 1 in 2000 mercury perchloride.† The vagina should be douched before the second stage of labour has commenced, *i. e.* before the child's face has come into contact with the infected areas.

*† See Caution on pages 101 and 111, with reference to POISONS

The cord should not be divided until it has ceased to pulsate. It is tied in two places, one knot being placed two inches from the navel, and the second an inch away from the first on the placental side. Before applying the knots, the blood in the cord should be expressed by running the finger and thumb along it. Reef knots must be employed. The division is made half-way between the ligatures by means of blunt-pointed scissors, and whilst the cord is being divided, it should lie in the palm of the nurse's left hand, after passing between the middle and index fingers. The stump must appear quite dry; or if it ooze it must be tied again.

In cases of blue asphyxia, skin stimulation by smacking, or the sprinkling of cold water on the child's chest, are generally sufficient to start respiration. All mucus must be cleared out of the nose, mouth and pharynx, and, if necessary, hot and cold baths, used alternately, are to be employed, and also Sylvester's method of resuscitation. If the child is in a state of white asphyxia, Sylvester's plan of artificial respiration is started at once, even before the cord is separated; all the air passages should be freed of discharge before this is done. In white asphyxia the more violent means of restoring breathing, such as Schultze's method, must not be employed. The child should be smeared with pure olive oil to remove the vernix caseosa. It should be placed on the nurse's forearm, and immersed in a bath at a temperature of 100° F., and washed with soap and water. Then it must be thoroughly dried, and examined for any congenital defects, such as harelip, cleft palate, cephal-hydrocele, cephal-hæmatoma, spina bifida, webbed fingers and toes, clubbed feet, etc. The little finger, lubricated with 'Dartring' Lanoline or 'Borofax,' must be passed for one inch up the anal canal, the prepuce must be drawn back if possible, and the glans penis cleansed from any collection of smegma. A tight foreskin or any other abnormality must be reported to a doctor. After the child is dried thoroughly the cord must be wrapped in sterile gauze, and a flannel binder sewn on around the child's body. The armpits and groins, the cleft of the buttocks and the genitals are to be dusted with equal parts of starch and boric acid, but zinc ointment or other fatty substances are not to be used. The diapers should be frequently examined; a damp diaper must not be dried and re-applied, but must be put into a 1 in 1000 solution of chinolol (made

by dissolving one 'Soloid' Chinolol, gr. 8.75, in one pint of water), and allowed to soak for several hours. It should be thoroughly washed in soap and water, boiled for fifteen minutes and then dried and put away in a suitable wrapper for future use. The child's parts must be thoroughly cleansed with warm water, dried and powdered after each change.

The child should be first put to the breast before the nurse leaves the house after the confinement, in order to see if it can suck. It will require no milk for the first three days, but may be given a little sugar and water and a few drops of cream or olive oil to aid in the expulsion of meconium.

When the cord drops off, generally on the fifth day, the scar must be carefully examined, and any serous discharge from the navel must be cleansed by daily washing out the depression with 1 in 4000 mercury perchloride solution,* and a sterile gauze dressing applied. Should the scar project, a pad of boric lint or sterile gauze must be applied behind a firm binder. 'Tabloid' Compressed Boric Lint and Boric Gauze are most suitable for these purposes. Hernia (rupture) in the groins or femoral regions must be reported to a medical man.

If artificial feeding be necessary, it should be begun on the third day. Great care must be taken in the selection of bottles, teats and diet. The old-fashioned boat-shaped feeder with two apertures, one for the teat placed at one end, and the other for purposes of filling and ventilation, placed in the middle of the upper surface, is recommended. The teats should be large and should draw well. Three bottles and six teats should be kept, and only the amount of one feed placed in the bottle at a time. Before and after use, the bottles and teats should be scrubbed out and boiled, the teats being turned inside out. The bottles and teats may be kept in a saturated solution of boric acid (one 'Soloid' Boric Acid, gr. 15, to each ounce of water), or in water containing bicarbonate of soda, when not in use; they must be rinsed in sterile water before the feed is introduced. (Details as to the proper Feeding of Infants will be found on page 173.) The child's mouth must be washed out after each feed with either weak boric acid lotion (made by dissolving one 'Soloid'

* See Caution on pages 101 and 111, with reference to Poisons

Boric Acid, gr. 15, in four ounces of water) or sterile water. The child must be nursed whilst taking its food, and must not be allowed to sleep with the teat in its mouth. The use of "comforters" should be discouraged. If thrush develop, it is a disgrace to the nursing. Its treatment requires careful attention to the above details, and the washing-off of the white fungus with swabs soaked in glycerin of borax. If the child be allowed to take its food too quickly, or if too much be given at a time, vomiting and curdy stools may result. In slight gastric and intestinal disturbance, one 'Tabloid' Sodium Citrate, gr. 2, may be added to each ounce of food. In severe cases of diarrhoea and vomiting, the nurse must acquaint the doctor with the details, *i.e.* she must be prepared to state how often and how soon after food the child vomits, whether the stools are offensive, and how often the bowels act.

General considerations which have not yet been dealt with are—

1. Attention to the Patient's Breasts.—The patient may be instructed to draw out depressed nipples before the confinement and to bathe them with 'Hazeline,' with equal parts of methylated spirit and water, or with eau-de-Cologne. The nipples must be cleansed with boric acid solution (made by dissolving one 'Soloid' Boric Acid, gr. 15, in three ounces of water) and dried after each feed. If they become sore or abraded they may be protected during suckling by a nipple-shield, and chaps may be carefully painted with 'Hazeline,' or compound tincture of benzoin, by means of a camel-hair pencil. Should the breasts become "caked" and hard, gentle massage with 'Dartring' Lanoline, or warm olive oil, done by gently rubbing towards the nipple, generally relieves the condition. If secretion stop, or the breasts become red, tender and painful, medical advice must be obtained.

2. The Use of Drugs.—Midwives are not given a schedule of drugs by the Board, it being assumed that wherever possible they will consult a doctor as to medicines. A midwife must, however, be provided with antiseptics and with some preparation of ergot (*see page 112*). Moreover, it is necessary that she should administer a purgative, and for this purpose she may give one ounce of castor oil on the third night after the confinement, or two drachms of liquorice

powder (four 'Tabloid' Liquorice Compound Powder, gr. 30), or half a drachm of the liquid extract of cascara sagrada (one 'Tabloid' Cascara Sagrada, gr. 4). She may administer glycerin to empty the lower bowel (*page 77*), and with regard to the giving of enemata, including the drugs to be used for the purpose, she should consult *page 76* of this Diary. The nurse must not attempt to drug the baby.

3. Safeguarding a Patient during a Fit.

All bands are to be loosened, corsets removed and the patient kept, if possible, with her head to one side and her chin a little lowered, so that saliva and froth may run out of the mouth. The teeth must be separated by any article available, such as a spoon, piece of stick or closed blunt-ended scissors. With the head in the position above indicated, the tongue cannot fall backwards and obstruct the pharynx. No examination must be made during a fit. A doctor must be at once sent for, but if his arrival be delayed, the nurse must stay with the patient after the fit is over, see that she is kept perfectly quiet in bed, and clean up any voided urine or feces.

4. To prevent Rupture of the Perineum.

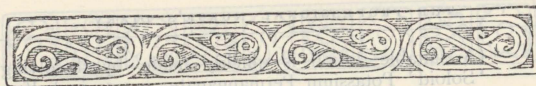
When the head of the child is dilating the perineum, the patient should be laid on her left side and the buttocks drawn to the edge of the bed. The nurse should sit in a chair and pass her left arm over the patient's right hip, and with the left hand passed over the pubes between the patient's thighs, she should press the vertex with three fingers towards the pubes while it descends on the perineum during a pain. The nurse can in this way control the amount of pressure made by the head on the perineum. The head should be left for a while with the perineum over the vertex before allowing the face to slip out. Great care must be taken in the delivery of the shoulders and also of the buttocks in a case of breech presentation.

5. The treatment of Post-partum Hæmorrhage.

—The nurse must not relax her hold of the fundus for any consideration whatever. She must therefore get first-aid from anyone available. The placenta must be expelled, and also all clots from the uterine cavity, because the uterus will not properly

contract unless it be empty. A vaginal, and, if necessary, an intra-uterine douche, at a temperature of 115°F ., must be given and repeated. Ten minims of 'Ernutin' ('Vaporole') should be injected into the buttock, and bi-manual compression carried out. To do this effectively, the patient is placed on her back, and the left hand is introduced into the vagina in the form of a cone. Next the fingers are bent into the palm and a tight fist made; the fist is pushed up in front of the cervix into the space called the anterior fornix or vault of the vagina. The right hand, which has all the while been grasping the fundus, presses it down as firmly as possible on to the hard broad shelf made by the knuckles and first phalanges of the fingers of the left hand. The bleeding surface is the placental site, and this is usually situated on the posterior wall of the uterus near the fundus. The whole of the placental site can be compressed by the method just described, and hence this is the most effectual means of dealing with a case of post-partum hæmorrhage. In addition, a second person may press, with the fingers, the aorta against the patient's spine, such pressure being exerted through the anterior abdominal wall, one inch below and to the left of the umbilicus. The assistant may be told to bandage the patient's legs, to elevate the foot of the bed and to open the windows for a few inches at the top, if this have not already been done. Meanwhile a doctor will have been summoned.

The restrictions placed by the Board on the duties of a midwife are fully given in the "Rules."



REQUISITES IN CASES OF CHILDBIRTH

CONSIDERATION of the article on the Rules of the Central Midwives' Board will enable the nurse to decide on the necessary equipment to be provided in cases of childbirth. To the nurse whose patient is under the care of a medical practitioner, the following hints may prove useful, whilst to the certified midwife who has complete charge of a case, they are of no less importance.

The centre of the bed, as well as the part on which the patient is lying, must be thoroughly protected by mackintosh cloth, covered by sheets of absorbent cotton, or some similar material, so as to prevent the discharges from reaching the bedding. The danger after childbirth of contact with a foul mattress is obvious. A clean and aired night-dress and binder should be in readiness from the first; those put on immediately after a confinement may become soiled within a short time. A kettle of boiling water should always be at hand. The syringe, previously ascertained to be in working order, should be soaked in an antiseptic solution.

A small quantity of Perfected Wyeth Beef Juice given in cold water or soda-water, or in milk and soda-water, is a most refreshing and strength-giving drink to a patient.

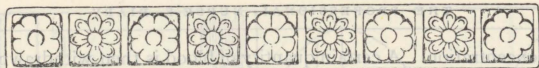
The following is a summary of requisites in midwifery practice. The midwife should see to their provision before the period at which she expects to be in attendance:—

1. 'Soloid' Corrosive Sublimate (Mercury Perchloride), gr. 8.75, or 'Soloid' Mercuric Potassium Iodide (formerly known as Iodic-Hydrarg.), gr. 8.75, for preparing antiseptic solutions for instruments, attendants' hands, etc. One of either product, dissolved in a pint of water, makes an antiseptic solution of strength 1 in 1000.

Corrosive Sublimate, as its name implies, is a powerful corrosive poison, and poisonous symptoms have even been produced by its external use in too strong solution. Nurses should therefore exercise the utmost care in using the product only as directed.

2. 'Soloid' Potassium Permanganate or 'Soloid' Carbolic Acid, for subsequent cleansing of the external parts, etc.

- (A suitable lotion is quickly made by dissolving 'Soloid' Potassium Permanganate, gr. 5, in half a pint of warm water. 'Soloid' Carbolic Acid, gr. 20, dissolved in two ounces of water, makes a solution approximately of 1 in 40. 'Soloid' Carbolic Acid, gr. 60, is issued for the purpose of preparing rapidly and conveniently larger quantities; gr. 5 for preparing smaller quantities of solution.)
3. 'Soloid' Chinosol, gr. 8.75. One in a pint of water makes a 1 in 1000 solution, suitable for sterilising diapers, etc.
 4. 'Soloid' Boric Acid, gr. 15. One in one to four ounces of water, to clean feeding bottles, to wash out the child's mouth and to bathe the mother's nipples.
 5. 'Ernutin,' 'Vaporole,' for hypodermic or intramuscular use. Dose, five to ten minims. 'Ernutin,' for oral administration. Dose, thirty to sixty minims. 'Tabloid' Liquorice Compound Powder, gr. 30. 'Tabloid' Cascara Sagrada, gr. 4.
 6. 'Phenofax' Brand Carbolic Acid Ointment, or 'Borofax' Brand Boric Acid Ointment, for lubricating examining finger, catheter, nozzle of enema, syringe, etc.
 7. Pleated Compressed Absorbent Cotton, Boric Lint and Boric Gauze, 'Tabloid' Brand. The sterilised products are to be preferred (*see page xxi*).
 8. A bottle of Perfected Wyeth Beef Juice.
 9. Sal Volatile or Brandy should be near at hand in case of exhaustion. It must be remembered, however, that *cardiac stimulants are somewhat dangerous in the syncope which accompanies hæmorrhage.*
 10. 'Dartring' Lanoline and Lanoline Toilet Soap.
 11. An antiseptic powder for dressing the cord.
 12. 'Hazeline' will often be found extremely useful for dressing sore or tender nipples, and for bed sores. For application to the nares, etc., of the infant when the diapers are changed, 'Hazeline' Cream or 'Borofax' Brand Boric Acid Ointment is recommended. When this is done, redness and irritation of the baby's skin from contact with the evacuations are rare.
 13. A new and clean No. 8 soft catheter, which should always be sterilised before being employed in another case. Another catheter, either of silver or of glass, should also be provided. Any of these may be sterilised by boiling.



SERUM THERAPY

SERA are fluids derived from the blood of animals, generally horses, and contain certain substances found to be of value in the treatment of the bacterial diseases.

Their use is based upon that doctrine of immunity which has grown up as the outcome of the germ theory of disease, and which has been confirmed by the experiments and researches of Pasteur, Koch, Ehrlich, Wright and other distinguished bacteriologists.

The scope of this work does not permit of any complete statement of the theory of immunity as revealed by the most recent researches; but it should be stated that immunity to a specific bacterial disease is either natural or acquired, and is due to the presence in the blood of anti-bacterial substances which have a tendency to conquer and dispel the germs of the disease. The sera injected either supply or stimulate the production of these anti-bodies in the blood of the patient.

Certain practical data are appended concerning serum therapy, such as may be of use to the nurse for purposes of reference when called upon to assist the physician in the administration of sera.

Sera are divided into two classes—antitoxic and anti-bacterial. The former are produced by repeatedly injecting animals (generally horses) with the soluble toxins produced in artificial culture by the micro-organisms; the latter by injecting them with the actual bacterial substance of such pathogenic organisms as do not excrete their poisons.

Typical of the two classes are Diphtheria Antitoxin Serum and Anti-streptococcus Serum. These were among the earliest sera introduced, and they have maintained their position as the most successful and most widely used of their respective classes.

Diphtheria Antitoxic Serum.—This is obtained by the repeated injection into a horse of gradually increasing doses of diphtheria toxin obtained from a special strain of diphtheria bacillus. This process is carried on till the antitoxin in the horse's blood has reached a point of maximum

concentration. A certain quantity of blood is then withdrawn and the serum which contains the antitoxin separated from other constituents. The successful results obtained by the use of serum in the treatment of diphtheria are now well known. Reports and statistics from many parts of the world are unanimous in recording a remarkable decrease of percentage mortality since the introduction of this method.

The dose for a case of moderate severity is 2000 units, and in severe cases 4000 units. These doses are given irrespective of age, since diphtheria is very fatal to young children. The amount of antitoxin which is necessary to save life increases at a rapidly accelerating rate, according to the length of time which elapses between infection with the diphtheria virus and the administration of the serum.

Diphtheria Antitoxic Serum is valuable for prophylactic purposes, as well as for curative treatment; for this purpose it is often administered in doses of 1000 units to the rest of a family of which one member has been attacked by diphtheria.

It should be carefully noted that when once a phial of serum is opened it is highly undesirable, owing to risk of contamination, to reserve any portion of the contents for future use.

Anti-bacterial Sera.—Among the most important sera which act on the bacteria themselves are those prepared to combat streptococcal infections. Specially interesting to nurses is the Anti-streptococcus Serum (Puerperal Fever), which is prepared by means of cultures of streptococci obtained from the uterus or spleen in cases of puerperal fever.

The sera issued by Burroughs Wellcome & Co. under the 'Wellcome' Brand, both antitoxic and anti-bacterial, as well as the vaccines and tuberculin, are prepared under the direction of highly-qualified bacteriologists at the Wellcome Physiological Research Laboratories, and are carefully tested for toxicity and sterility before issue. Every precaution which science has suggested is faithfully observed in these admirably-equipped laboratories, and the sera, after being standardised to contain a certain number of units per c.c., are enclosed in hermetically-sealed phials, and the date of preparation marked upon each package.

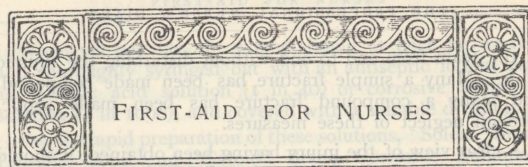


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See page liv



A NURSE, especially when engaged in district or private work, is frequently called on to give assistance in the interval between an accident or the onset of illness and the arrival of the doctor. Coolness and promptitude in such cases will stand her in good stead, and it is hoped that the following general instructions as to what should, and what should not, be done in the more common instances will prove useful. A special illustrated article on bandaging will be found on pages 128 to 135.

The directions which follow are of the simplest and most practical character, experience having shown that at such times detailed theoretical knowledge—such as is acquired in the earlier months of training—is very liable to prove untrustworthy. For instance, a nurse has been known to spend invaluable time in trying to localise the anatomical spot where the brachial artery can be digitally compressed against the bone, instead of at once adopting the efficient common-sense method of controlling hæmorrhage by twisting a handkerchief or cord as tightly as possible round the upper arm. Any grave error, be it of omission or commission, is likely to bring the nurse and her profession into disrepute. Anything approaching officious interference with matters which ought to be left to the medical man should be scrupulously avoided. A reputation for “cleverness” so gained with the public is more than counterbalanced by the serious nature of the risk, and by the well-earned disapprobation of the medical attendant. In the succeeding paragraphs, however, it is shown that in not a few emergency cases prompt and vigorous measures—always tempered with caution and common sense—may prove invaluable.

Simple Fractures.—Called to a case where a bone is supposed to be broken, the nurse should make careful observation of the patient and of the injured limb before doing anything else. It is bad economy to spare clothing in such case. A sleeve or trouser leg should be opened up

at the seam from end to end without disturbing the injured limb. Many a simple fracture has been made compound, and many a compound fracture has been made septic, through neglect of these measures.

A clear view of the injury having been obtained, it should not be further interfered with unless the case seem urgent. It is the duty of the surgeon to form a diagnosis as to whether the bone be broken.

If the limb be unnaturally bent or distorted, however, and especially if the broken ends of the bone project against the skin, the nurse should gently and slowly replace the limb in its normal position. Should immediate removal of the patient be necessary, a temporary splint must be applied. For this purpose a piece of common millboard, such as is used in making drapers' boxes, serves excellently. It should be bent in parallel creases, so as to enclose the limb, and *firmly* bound at the ends and middle with handkerchiefs. A stiff folded newspaper will make a very fair substitute, while a few walking sticks or umbrellas are often useful. The nurse must never fail to take personal charge of the fractured limb while the patient is being carried, and to keep it as steady and straight as possible.

Compound Fractures.—When there is a communication between the broken surfaces of the bone and the outer air (usually caused by a sharp fragment of the bone penetrating the skin), the fracture is called compound, and is a much more serious injury than one in which the skin remains intact. This is owing to the fact that harmful germs may obtain an entrance into the wound. If these micro-organisms can be destroyed or, better still, if their entrance can be prevented, the patient's condition is very greatly improved.

[The following remarks regarding the treatment of compound fractures must not be construed into an authorisation to nurses to deal with such matters. A nurse would incur grave responsibility if she meddled with a compound fracture when there was any possibility of obtaining medical assistance within a reasonable time. This book, however, is read by nurses in every part of the world, and the following information is addressed principally to those whose duties are discharged in distant colonial settlements and in missionary stations far from medical aid.]

Whenever possible, the wound should at once be washed and thoroughly syringed out with an antiseptic lotion, such as carbolic acid solution (1 in 40) or corrosive sublimate solution (1 in 1000), and covered with a suitable dressing.

For the rapid preparation of these solutions, 'Soloid' Brand Carbolic Acid and 'Soloid' Brand Corrosive Sublimate (Mercury Perchloride)* are invaluable. They occupy but a small space in the satchel and are available at any moment. 'Soloid' Corrosive Sublimate, containing gr. 8.75 of the chemical, dissolved in a pint of water, forms a 1 in 1000 solution. Carbolic acid solutions of desired strengths may be easily made if it be remembered that two ounces of water weigh 875 grains, and that 'Soloid' Carbolic Acid, gr. 20, dissolved in that quantity of water, makes a solution approximating to 1 in 40. 'Soloid' Carbolic Acid, gr. 60, is intended for the preparation of larger quantities of solution. If a projecting end of a bone cannot be replaced, it should be swabbed *thoroughly* with the lotion, and completely covered with the handkerchief soaked in the antiseptic solution. Make-shift splints should be applied as to a simple fracture. A splint, to be efficient, must be *firmly* bound to the limb, and be long enough to control the joints above and below the break.

In fractures of the thigh it is useless to apply such a splint as is mentioned above. The limb should be laid on its outer side with a support under the knee. Gentle but firm and straight traction at the knee will greatly help the patient, should it be necessary to move him before a surgeon arrives.

Dislocation of a joint is accompanied by considerable pain, and, as reduction should be entrusted only to a medical man, the nurse's first duty is to send for him. There should be no delay, for, with the lapse of time, difficulty of reduction increases. The following are some of the signs by which a dislocation may be recognised; but it must be remembered that a dislocation may be either partial or complete, and that it may be complicated with a fracture or with other severe injury of the surrounding parts: (1) pain at the seat of injury; (2) difficulty of movement; (3) change in the actual shape of the joint; (4) alteration in the length of the limb.

Dislocations of the shoulder are most frequently met with, the head of the humerus being liable to displacement in

* See Caution on pages 101 and 111, with reference to POISONS

different directions. After having sent for the medical attendant, the nurse may be able to lessen the pain by applying hot fomentations, and by supporting the limb with carefully arranged pillows.

A form of displacement which is very trying to the patient is dislocation of the jaw. As reduction does not present any great difficulty, it may be as well for the nurse to be acquainted with the method. The operator's thumbs, protected by a napkin, are placed on the lower molar teeth; pressure is then made downwards and backwards, the chin at the same time being elevated by the fingers. By these movements the jaw may be made to slip in place with a snap, and care is necessary to avoid being bitten. After any dislocation there may be weakness in the joint and a tendency for the displacement to recur. It is necessary therefore for the injured parts to be kept firmly in position until strength has been regained.

Sprains most frequently occur at the wrist and at the ankle, and the treatment necessary in each case will depend upon circumstances, the most important consideration being the degree of severity and the age of the lesion. As much care is necessary in the management of sprains as in the treatment of apparently more serious injuries. On no account should a sprain be neglected, as permanent disablement may follow carelessness in this respect, and the injury may cause long-abiding discomfort, stiffness and disability.

Complete rest is absolutely necessary if the sprain be more than of the most trifling nature. The actual length of time necessary for a patient to rest will, of course, be indicated by the medical attendant. Till instructions are given the limb should be kept at rest. A severe recent sprain should be treated by first placing the limb upon a pillow in the position most comfortable to the patient. Generally speaking, cold applications are most beneficial. For this purpose a little 'Hazeline,' either alone or mixed with an equal quantity of cold water, should be used to saturate strips of lint which may be applied to the affected part, and frequently renewed. In some cases, when the pain is exceptionally severe, hot applications give relief, and medical men frequently prescribe the combination of lead and opium in a lotion. For the immediate preparation of such an application, 'Soloid' Lead and Opium Lotion is

most convenient. One 'Soloid' product is added to each fluid ounce of water and shaken up until disintegration occurs, when the lotion is ready for use. After the swelling has subsided, and when the patient can bear it, gentle pressure is applied, by means of a bandage, to assist the absorption of fluid. Following this, gentle massage, with passive movement of the joint, is employed; and, finally, the joint must be judiciously exercised by the patient himself.

Wounds: HÆMORRHAGE.—The chief points to be aimed at in rendering first-aid in the case of incised wounds are: (1) to arrest hæmorrhage and (2) to prevent septic contamination. The best and safest way of arresting arterial bleeding temporarily in a limb or extremity is to bind an elastic tourniquet firmly about the limb above the seat of injury, *i.e.* between the wound and the heart. A piece of rubber tubing will answer the purpose if it be flexible and strong enough to be tied securely. In one case of a punctured wound of the great artery at the back of the knee, a piece of tubing, hastily snatched from a common gas-ring and wound round the middle of the thigh, saved the patient's life. If such an appliance cannot be obtained, any piece of strong cord, wound repeatedly round a limb in such a way that the coils are superimposed, will generally suffice. Needless to say, any such severely constricting agent must be removed at the earliest possible moment.

Where such means are not sufficient or available, firm direct pressure, if properly applied, will generally stop the bleeding, and is a safer method of treatment. By far the most efficient way of applying this method is to uncover completely the bleeding point, and to apply pressure with the fingers over a pad of clean linen. Before doing this, however, the nurse must not fail to wash and otherwise disinfect her hands as thoroughly as the urgency of the case allows.

It is a good plan invariably to raise the wounded limb well above the body, and to place beneath it a firm support such as a large hassock, a folded coat or other available article.

The treatment of secondary and recurrent hæmorrhage after operations need scarcely be dealt with here, but the principles involved are the same.

A clean wound which does not bleed should be meddled with as little as possible until the surgeon comes.

Wounds: ANTISEPSIS.—In any case where antiseptic measures may be needful, the nurse should not, as a preliminary, apply strapping plaster or any sticky application, since its removal would disturb the wound. A good plan in such a case is to dust the skin about the wound with iodoform, gently to place the edges of the cut in apposition and to cover the wound with any clean and light dressing. Any undue interference with the cut surfaces will retard healing.

For simple cuts there is no better treatment than a piece of lint saturated with 'Hazeline,' over which is placed a layer of dry lint, the whole being strapped down with adhesive plaster.

'Phenofax' Brand Carbolic Acid Ointment, an antiseptic, emollient and healing preparation containing 4 per cent. of pure carbolic acid (phenol), also makes an excellent dressing.

Any severe wound, or one which is contused, lacerated or dirty, should be well doused as soon as possible with an antiseptic solution—such as a 1 in 1000 solution of mercury perchloride, made by dissolving 'Soloid' Corrosive Sublimite (Mercury Perchloride), gr. 8.75, in a pint of warm water—and covered with two or three layers of 'Tabloid' Sal Alembroth Gauze.

Wounds: STITCHES.—Cases occur, especially in the Colonies, where a doctor cannot be obtained, perhaps for several hours. In such an event it is well for the nurse to know how to put in a stitch. She should use silver wire, or silk-worm-gut, and a triangular needle, and should boil both before using. The hands must be thoroughly cleansed with the corrosive sublimate solution mentioned in the previous paragraph. The needle should be made to enter the skin vertically. The stitch must on no account be drawn tighter than is necessary to bring the cut surfaces into contact. It is almost needless to add that a nurse should never undertake surgical duties except in emergencies, or by express direction of the doctor. This golden rule cannot be too strongly insisted upon.

Burns and Scalds.—If called upon to give aid in case of a severe burn or scald, the nurse should aim to protect the injured skin from the air, and to fortify the patient against shock. The application to the injured part of linen dipped in a solution of one ounce of sodium bicarbonate in rather more than half a pint of water usually gives relief.

Any kind of pure oil or grease of a non-irritating character, spread liberally on lint, clean linen or calico rag, will serve

to protect the skin in an emergency; and it is a mistake to waste a moment in making Carron oil or other application which takes time to prepare, when lard or oil is within reach. The best dressing is Boric Acid Ointment, which acts as a mild antiseptic, relieves pains, soothes the part and stimulates healing.

If the washing and re-dressing of a burn be left to the discretion of the nurse, she will find that the addition to the water of a little common salt (just enough to be perceptible to the sense of taste), or bicarbonate of soda, will save the patient much pain and smarting.

In a case of extensive burns or scalds, a medical man will sometimes advise the immersion of the whole body, with the exception of the head, for a considerable time in a warm bath, at a stated temperature.

Shock from Burns.—Burns usually cause a considerable shock to the nervous system, and it is most important to keep the feet and abdomen of the patient warm with hot bricks or water bottles covered with flannel, care being taken to prevent further injury to the patient from too close contact with the hot material. Seeing that the collapsed condition is a temporary one, and, when arising from such a cause, is plainly not associated with hæmorrhage (see Syncope, page 126), the nurse will generally be quite justified in giving hot coffee or other stimulant to revive the action of the heart.

Foreign Bodies in Eye, Ear or Throat.—Small foreign bodies in the eye can, when loose, generally be removed with the corner of a handkerchief. If, however, they are attached to the conjunctiva, as is often the case when a minute cinder gets into the eye on a railway journey, a piece of soft wood, such as a lucifer match, *carefully smoothed*, will generally effect the desired result. A new and clean camel-hair pencil, moistened by dipping in water, is the best instrument for the purpose.

Frequently a particle of grit, etc., will become attached to the inside of the upper lid, in which case it can be readily removed by gently and carefully turning the lid back over a thin pencil or penholder, and wiping off the particle with the corner of a handkerchief.

As a rule, it is best for a nurse to make no attempt to extract a foreign body, such as a bead, pea or pebble, from

a child's ear. The attempt may involve the patient in considerable danger, and will probably prove unsuccessful. Indeed, few surgeons of experience will try to remove a foreign body from a child's ear without the aid of an anæsthetic.

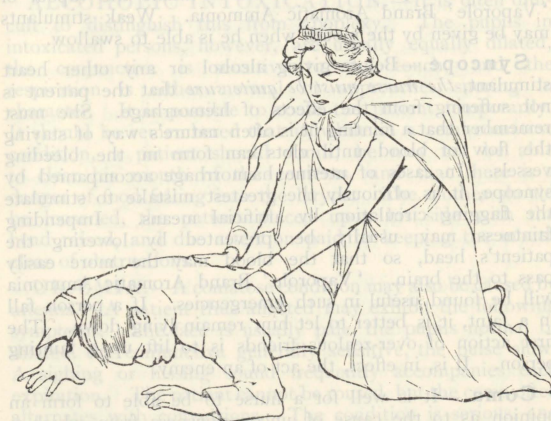
Children sometimes put such objects as buttons, cherry-stones or pebbles into their nostrils. These obstructions are often easy to remove. The child must first take a deep breath, and the nurse must then shut the child's mouth, and at the same time close the nostril on the opposite side. The child is then directed to blow violently down the obstructed nostril. If this does not expel the offending substance, it may be removed by external pressure applied from above downwards. Anything fixed in the bony nasal passage requires the assistance of surgical skill.

Foreign bodies such as coins and large buttons sometimes get lodged in the pharynx, and produce alarming symptoms. In many cases, a finger thrust boldly on one side of the pharynx will pass beneath the foreign body and extract it. Another good plan is to hold the child head downwards and to shake and slap him thoroughly. In this way not a few lives have been saved when suffocation was imminent.

Artificial Respiration.—For general purposes, the most satisfactory methods of producing artificial respiration are those of Sylvester and Schäfer. The former should be employed in attempts to restore animation in newly-born children (*see also page 106*). Sylvester's method is as follows: The patient should be laid on his back, with a cushion or folded blanket under the shoulder blades. The operator, who is behind the patient's head, should take hold of the wrists, press the arms firmly against the ribs, then raise the arms to the fullest extent above the patient's head, and finally bring the arms down again to the patient's ribs. These manipulations should be repeated at the rate of about fifteen times a minute, not more. It is a mistake, and an exceedingly common one, to attempt greater rapidity of movement. Schäfer's method is carried out in the following manner: Immediately on removal from the water the patient should be laid face downwards on the ground. The operator assumes a kneeling or squatting position either across or on one side of the patient's body facing his head (*see illustration*). The hands are then placed flat on the lower part of the back, one on each side, and the treatment commenced by slowly leaning forward upon the



Schäfer's Method of Artificial Respiration. First Position.



Schäfer's Method of Artificial Respiration. Second Position.

hands, keeping the elbows extended so as to produce gradually increasing pressure—which must not be too violent—on the patient's chest. The pressure is applied for about three seconds and is then removed by the operator swinging the body back, leaving her hands in position. After two seconds the process is again commenced, and is continued in the same way, the operator swinging her body forwards and backwards once every five seconds, or about twelve times a minute.

This course must be pursued until the natural respirations are resumed. It is of the utmost importance that not a moment be lost in commencing artificial respiration. Do not stop to remove wet clothing. Artificial respiration should be continued for two hours, if necessary, until a spontaneous attempt to respire is noticed. Whilst one person is carrying out artificial respiration in this way, others may apply hot flannels to the body and limbs, and hot bottles to the feet, but no attempt should be made to give restoratives by the mouth until natural breathing has been recommenced.

When breathing has been restored (as indicated by a gasp or two), the patient's legs, arms and body should be rubbed in the direction of the venous circulation, *i.e.* towards the heart. He may also be allowed to inhale the vapour of 'Vaporole' Brand Aromatic Ammonia. Weak stimulants may be given by the mouth when he is able to swallow.

Syncope.—Before giving alcohol or any other heart stimulant, *the nurse must be quite sure* that the patient is not suffering from the effects of hæmorrhage. She must remember that a fainting fit is often nature's way of staying the flow of blood until clots can form in the bleeding vessels. In cases of uterine hæmorrhage accompanied by syncope, it is obviously the greatest mistake to stimulate the flagging circulation by artificial means. Impending faintness may usually be prevented by lowering the patient's head, so that the blood may the more easily pass to the brain. 'Vaporole' Brand Aromatic Ammonia will be found useful in such emergencies. If a person fall in a faint, it is better to let him remain lying down. The first action of over-zealous friends is to lift up a fainting person. It is, in effect, the act of an enemy.

Coma.—It is well for a nurse to be able to form an opinion as to the cause of unconsciousness from which a patient may be suffering, and a few indications are here

given of the general distinguishing features. This information is intended only to enable the nurse to render first-aid until the arrival of a doctor.

Other forms of coma besides those specified below may be met with, such, for example, as that which usually follows an epileptic seizure. The nurse should loosen the clothing, ensure fresh air, apply warmth to the extremities, if necessary, and carefully watch the patient until the arrival of a doctor. In the case of an epileptic fit, it is not necessary to restrain the convulsive movements of the affected limbs. A glove-finger, lead pencil, or piece of wood should be placed between the teeth to lessen the chance of the tongue being bitten; and the patient should be prevented from injuring himself.

APOPLEXY.—Convulsions are rarely present. The pupils are often unequally dilated, and there may be facial paralysis. The conjunctiva is not sensitive to the touch, the respiration is stertorous and the pulse is generally full. The patient cannot be roused. Do not move the patient more than may be necessary, but loosen the clothes and raise the head. Cold applications should be applied to the head and warmth to the feet until the doctor's instructions are received.

ALCOHOLIC INTOXICATION.—It is often difficult to distinguish this from apoplexy. The pupils in intoxicated persons, however, are usually equally dilated, the conjunctiva is sensitive to the touch, and the respiration is either normal or approaches snoring in character. It is possible to rouse the patient temporarily. It should be remembered that if, while in a semi-comatose condition, a patient should vomit, he may not be able to clear his mouth of the contents, and that there is a danger of food falling into the larynx. The clothes should be loosened, the patient placed upon his side with the head raised, and due attention paid to keeping the mouth clear of obstructions.

URÆMIA.—A comatose condition may also be caused by uræmia. A patient thus affected may exhibit the following symptoms. The face is usually pale, the pupils normal or dilated, the conjunctiva generally sensitive, the pulse slow. A sighing or hissing sound frequently accompanies each expiration. The patient cannot be roused, but the coma often alternates with convulsions. The condition is serious, and the services of a medical man must be obtained without delay.

OPIUM POISONING.—Cases of poisoning by opium, its chief alkaloid, morphine, or the tincture, laudanum, are not infrequent, owing to the extent to which these drugs are employed for the relief of pain. There is a danger of confusing opium poisoning with apoplexy, or with alcoholic intoxication. The most reliable indication, however, is the contracted state of the pupils in opium poisoning; this is equal, and generally extreme. The pulse and the respiration are both slow. Although apparently unconscious, the patient may be roused if vigorous measures be taken. Until the arrival of the doctor, vomiting should be encouraged, and hot, strong coffee may be given if the patient can swallow, and one gr. 5 product of 'Soloid' Potassium Permanganate, dissolved in half a tumblerful of water. (*See also page 188.*)

BANDAGING

The nurse will have acquired dexterity in bandaging during her period of training, but it is felt that the following notes and diagrams may be useful for reference in private or district work.

GENERAL RULES

1. Fix the tail of the bandage.
2. Bandage from below upwards, and from within outwards, over the front of the limb.
3. Each turn should overlap two-thirds of its predecessor.
4. Pressure throughout should be uniform.
5. Margins should be parallel. Crossings and reversings should be in one line.

NOTE.—The simple spiral is applied to cylinders, the reverse to cones and the figure-of-eight where cones meet. All three are well demonstrated in the bandaging of the foot. The free end of the roller bandage is the tail, the roll from which it depends is called the head.

To Bandage the Foot.—With the bandage in the right hand lay the tail over the ball of the great toe. Carry the bandage in a loop round the ankle and back to the starting point (*Fig. 1*). This is done by rolling the head of the bandage on the dorsum of the foot to the outer malleolus, behind the ankle to the inner malleolus, across the dorsum, in the opposite direction and across itself, to the ball of the little toe, thence beneath the sole to the great toe, thereby

completing a double loop or figure-of-eight and fixing the end. Now take a complete turn over the dorsum and ascend on the inside with a gentle spiral. The dorsum of the foot being conical in form, bandaging with the simple spiral will not cover it, hence the reverse is employed. To reverse, hold the head lightly in the hand—note that the anterior surface of the bandage is outermost—free about three inches of the



Fig. 1

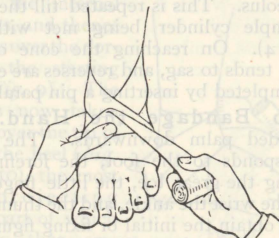


Fig. 2

tail, and, steadying the lower margin with the left thumb or forefinger, turn the head (*Fig. 2*). The posterior surface of

the bandage is now outermost, the upper margin is towards the toes, and the head, instead of rolling on the foot, requires to be unwound as it is passed under the foot. Here it is caught by the left hand and brought again on to the dorsum, where, when it reaches the fold, it is at a higher level, overlapping two-thirds of the previous turn.



Fig. 3



Fig. 4

On reaching the fold, the bandage, which is now held by the right hand, is again reversed, so that its anterior surface is outermost, the fixing being done in the same line as the previous fold. In this way two or three reverses are made, the anterior and posterior surfaces being alternately exposed and the bandage itself alternately unrolled and unwound.

As the instep is reached, it will be found that the bandage no longer lies smoothly. The junction of two cones is being approached at the heel and the figure-of-eight is required (*Fig. 3*). Instead of being reversed, the bandage is brought round the outer malleolus, thence down from behind the inner malleolus, over the dorsum, under the sole, up on the inner side, again across the dorsum, and so back to the inner malleolus. This is repeated till the ankle is reached, when, a simple cylinder being met with, spirals are available (*Fig. 4*). On reaching the cone of the calf, the bandage again tends to sag, and reverses are employed. The bandage is completed by inserting a pin parallel to its margins.

To Bandage the Hand.—The limb should be extended palm downwards. The hand now corresponds to the foot, the forefinger representing the great toe, the little finger the little toe, the wrist the ankle, and the thumb the heel.

To obtain the initial or fixing figure-of-eight, the bandage, the tail of which is laid under the second phalanx of the forefinger, is looped round the wrist and brought down to the terminal phalanx of the little finger. The procedure in this and the succeeding steps (*Figs. 5, 6, 7 and 8*) is exactly similar to that applied to the foot, and just as the heel was left exposed so the thumb is left free.

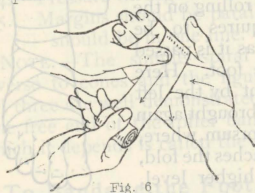


Fig. 6



Fig. 7



Fig. 8



Fig. 5

Caution.—There must never be any constriction. The exposed digits afford a sure guide to the state of the circulation. In this respect care is particularly necessary with children, as their soft tissues yield readily, so that with even a moderate pressure the circulation may be impeded and gangrene result. The warning sign of even the slightest oedema or discoloration must never be neglected.

SPECIAL BANDAGING

The Spica.—This is simply a figure-of-eight. To cover in such prominences as the heel, the knee, or the elbow, a modification known as the divergent spica is employed.

Divergent Spica for the Heel.—The tail is laid against the external malleolus, the roller carried under the

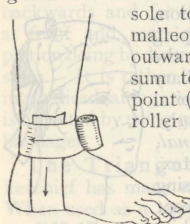


Fig. 9

sole to the internal malleolus, and thence outwards over the dorsum to the starting point (*Fig. 9*). The roller is now taken over the tip of the heel (*Fig. 10*), the most projecting part of which is thus em-



Fig. 10

braced by the middle portion of the turn. Bandaging is continued over the dorsum and again round the heel, but diverging from the tip.

Divergent Spica of the Knee-Joint.—The

limb must be slightly flexed. With the tail on the inner condyle the roller is passed over the front of the patella to the outer condyle and back to the starting point. The loose lower and upper margins are fixed by the second and third turns respectively (*Fig. 11*), and a transverse elliptical series of overlapping margins is formed in front of

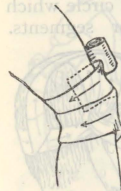


Fig. 11

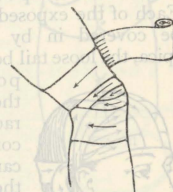


Fig. 12

the knee, which, while permitting of a limited range of movement, at the same time forms a useful support to an inflamed joint (*Fig. 12*).

Divergent Spica at the Elbow.—The technique is precisely the same as that for the knee. This bandage is useful where it is desirable to keep the arm at rest in the flexed position, as after fractures or joint injury.

To Bandage the Head.—Here the divergent spica is the most suitable form. As the shape of the cranium induces liability to slipping, it is imperative that the initial and final turns should be secure, and that all should have mutual dependence. This dressing is based upon three main series of loops, which are at right angles to one another.

The First, which is horizontal in direction, passes above the level of the ears, gripping the cranium firmly (Fig. 13), between the frontal eminences and the superciliary ridges anteriorly, and below the occipital protuberance posteriorly.

The second series, coronal, passes from the vertex, below the chin, passing behind, sometimes in front of the ears (Fig. 14); while

the *third final turn* passes from behind forwards over the vertex. Pins should be inserted at the crossings. *To cover in the fore part of the head*, the tail is grasped by one hand, while the other carrying the roller makes the horizontal turn, and, by passing the roller under the loose end, forms the coronal circle which divides the scalp into anterior and posterior segments.

Each of the exposed portions may now be covered in by separate divergent spica, the loose tail being utilised as fixed point from which the successive turns radiate (Fig. 15). To complete, the roller is carried forwards from the back, all the other turns being pinned to this final one. Covering in the *posterior portion of the scalp* is somewhat more difficult, but by more obliquity in some of the loops and by varying the turns, carrying some round the forehead, under the chin or in front of the ears, good results are obtainable.



Fig. 14



Fig. 13



Fig. 15



Fig. 16

A covering for the whole scalp is supplied by the Capeline Bandage. This consists of two rollers sewn together, one of which, the longer, is made to circle round the head, fixing the other, which is carried backwards and forwards at front and rear, completion being by divergent spica. It is rather heating, a disadvantage which is obviated by using gauze bandages.



Fig. 17

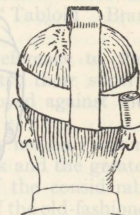


Fig. 18

The Triangular Bandage.—The triangular handkerchief has many useful applications, and is easily washed. When used as a support, the base of the triangle should be applied to the part to be supported. The accompanying illustrations show some of its applications.



Fig. 19



Fig. 20



Fig. 21



Fig. 22



Fig. 23



Fig. 24

The Clove-Hitch.—The bandage is grasped with both hands, the palm of the left being up, that of the right down

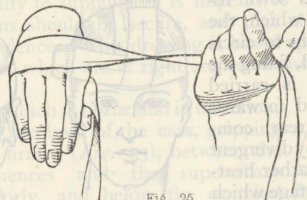


Fig. 25

(Fig. 25), both hands are turned (Fig. 26), and the two loops now in position for use are slipped on to the fingers of the left (Fig. 27).

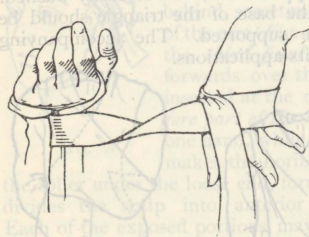


Fig. 26

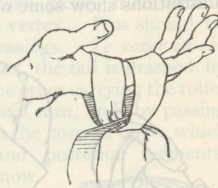


Fig. 27

The Reef-Knot.—If a bandage is tied, the Reef-Knot, which never slips nor jams, should alone be used. Sketches of the Reef-Knot (Fig. 28) and the Granny (Fig. 29), a knot which both slips and jams, are added in the hope of preventing their further confusion.



Fig. 28



Fig. 29

To do good work, one must have good material. This is a truism which is applicable to bandages as to other things. A cheap inferior bandage cannot be put on neatly, and will invariably cause annoyance through stretching and sagging. Other important considerations which should be kept in mind

when choosing bandages or dressings, are portability, ready availability, and non-liability to contamination before use. These advantages are all embodied in 'Tabloid' Brand Pleated Compressed Bandages.

These products are truly unique with reference to their compact packing, their instant availability, their superior quality, and the protective measures employed against their being contaminated by disease germs.

The nurse who uses 'Tabloid' Bandages not only ensures the highest degree of efficiency in her work and the greatest comfort for her patients, but saves herself the considerable labour involved in the rolling and carrying of the old-fashioned bulky bandages.

For list of 'Tabloid' Brand Bandages and Dressings, see pages xxi to xxiii.

An Ideal First-Aid Outfit for Nurses.—An outfit of surgical dressings, etc., sufficient for common contingencies, has been specially designed for nurses in 'Tabloid' First-Aid, No. 708.

Owing to the small space occupied by the 'Tabloid' Pleated Compressed Dressings which it contains, it has been possible to place a sufficient supply in the small compass of this very convenient equipment. The outfit can be supplied with a specially-designed webbing holder for attachment to the waist-belt, and, as it weighs only a little over a pound when complete, it can be carried in the position indicated in the accompanying sketch without interfering with freedom of movement or causing undue fatigue.

No. 708 'Tabloid' First-Aid for Nurses contains 'Tabloid' Pleated Compressed Bandages (2½ in. and 1 in.), Absorbent Cotton and Lint: adhesive plaster, camel-hair brush, a tube of protective skin, 'Borofax' Brand Boric Acid Ointment, 'Vaporole', Aromatic Ammonia, for use as "Smelling Salts," Carron oil (solidified), jaconet, and safety pins; also a supply of 'Tabloid' Ammonium Carbonate and 'Soloid' Chinosol products.



No. 708. 'Tabloid' First-Aid for Nurses, showing method of attachment to waist-belt by means of webbing holder

Every item in the equipment is of the finest quality, and has been specially selected for its purpose with a view to efficiency and economy of space. Nurses will appreciate the convenience and utility of the small, compact packages of dressings, from which the required quantity can be removed at will. By this means the remainder is kept free from the contamination of dust and dirt, and is always ready for use.

A very convenient method of carrying 'Tabloid' First-Aid, No. 708, when out of doors, is seen in the illustration on this page, in which the outfit is shown attached to the handle-bar of the cycle by means of the special webbing holder.

Equipped with this outfit and with her professional training, common-sense, and a natural gift for helpfulness, the nurse will be able to face all ordinary emergencies.

The necessity and importance of first-aid treatment in cases of accident or injury, where the services of a medical man are not at the moment available, have been very generally recognised and sanctioned by the medical profession, and all trained nurses are familiar with this work. For special emergencies, and also for their routine duties in the ordinary course of sick visiting, nurses will find 'Tabloid' First-Aid, No. 708, a most useful companion, upon which constant reliance can be placed.

It provides an outfit of dressings, etc., which is sufficiently complete and comprehensive, and which is yet capable of being rapidly put together, and carried from place to place without trouble. In addition, although the contents of the case are packed so as to occupy the minimum of space, it will be found that every item is always easily accessible and ready for immediate use.



No. 708. 'Tabloid' First-Aid for Nurses, showing method of attachment to handle-bar of cycle by means of the webbing holder.

TRADE MARK 'TABLOID' BRAND FIRST-AID

NO. 708 'TABLOID' FIRST-AID (The Nurse's)

A compact, portable equipment. Ideal for those engaged in district and sick poor nursing, etc.



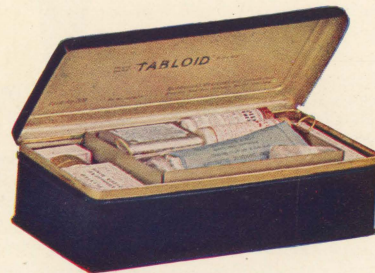
Contains all the necessary requisites for rendering first-aid in emergencies.

No. 708. 'Tabloid' First-Aid (Rex Red Enamelled Metal)

Measurements: $6\frac{1}{2} \times 3\frac{1}{4} \times 2$ in.

Contains 'Tabloid' Bandages and Dressings, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' Carron oil (solidified), jaconet, plaster, protective skin, camel-hair brush, pins, etc., and two tubes of 'Tabloid' and 'Soloid' Brand products.

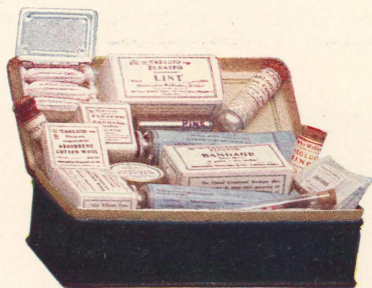
In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in Aluminised Metal (see illustrations).



Ideal in compactness. Not an inch of space and not an ounce of weight more than necessary.

No. 708. 'Tabloid' First-Aid (Royal Blue Enamelled Metal)

NO. 708 'TABLOID' FIRST-AID—(continued)



Every item is of that superior quality which distinguishes the products of B. W. & Co.

No. 708. 'Tabloid' First-Aid (Brewster Green Enamelled Metal)

Owing to its extreme compactness and lightness, this outfit may be conveniently carried at the waist-belt by means of a special webbing holder, which can also be used for attaching it to the cycle handle-bar.

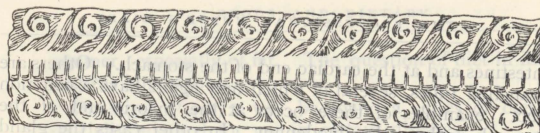


The webbing holder is supplied at a small extra charge.

No. 708. 'Tabloid' First-Aid (Aluminised Metal)

Showing waist-belt and cycle handle-bar holder in position

Refills of any item can be obtained



FOODS AND DIETARY

The Purpose of Food.—Food replaces the waste of the tissues, and maintains the normal composition of the body, which is made up of a number of substances of varying chemical composition. A diet, to be satisfactory, must contain all the elements necessary for the constitution of the body, not necessarily in the form in which they exist in the tissues, but so presented that the process of digestion will render them available for replacing bodily waste.

Under a proper diet the body will be in a condition of equilibrium, that is to say, the intake of food will be just sufficient to balance the expenditure of energy, and the body weight will remain fairly constant. An insufficient diet after a time leads to loss of weight and emaciation, whilst over-abundance of food may produce corpulence. Over-eating also gives the digestive organs more work than that which they are usually accustomed to perform, and indigestion may result in consequence.

Digestion.—The preliminary process of preparation which food undergoes takes place in the alimentary canal, and constitutes what is called digestion. The object of digestion is to separate the valuable from the useless constituents of the food-stuffs, and to dissolve the former so as to render them capable of absorption into the blood or lymph. The process of digestion is partly mechanical and partly chemical, the food-stuffs being broken up or divided mechanically by movement in the various parts of the alimentary canal, and acted upon chemically by the digestive juices. The digestive juices are prepared or secreted by glands, which pour them into the various parts of the alimentary canal. These glands consist essentially of tubes lined with mucous membrane and surrounded by a network of blood-vessels. Some are simple tubes, either opening directly on the surface or having a duct, or channel, which may be common to several glands, to convey the secretion to the surface. Such glands are found in the

intestines and at the cardiac end of the stomach. Others are branched tubes, several of which may again have a common duct; examples of these occur at the pyloric end of the stomach and in the duodenum. In other cases the gland consists of a large number of secreting tubules, opening into a more or less complex system of ducts, which in turn open into one main duct. By the latter the secretion of the gland is discharged into the alimentary canal. The salivary glands and the pancreas are instances of such compound glands.

Classification of Food Material.—Foods may be broadly divided into four classes :—

(A) *Proteins or Nitrogenous Substances.*—Among these are albumin (the main solid constituent of white of egg), caseinogen (the chief part of the curd of cow's milk), legumin (occurring in peas, beans, etc.), myosin (the chief constituent of lean meat), and gluten (the protein of wheat and bread). They are force-producers and flesh-formers, and they repair the waste of the body, and retard oxidation of the tissues.

(B) *Carbohydrates*, such as starch, sugars, dextrin, etc. These furnish material for oxidation, and are heat and energy producers.

(C) *Fats.*—Are found both in animal and vegetable foods, e.g. butter, cream, oil, the fat part of meat, etc. Fats serve the same purpose as carbohydrates, to supply heat and energy to the body. The power of fats to maintain heat and produce bodily force is more than twice that possessed by starch.

(D) *Mineral Salts.*—These occur in small quantities in nearly all foods, and their constituents are appropriated by various parts of the body according to their special needs. Thus, phosphates are required by the nervous system, iron salts by the blood, lime salts by the bones and teeth, and potassium and sodium salts by the muscles.

The above divisions of food-stuffs, and indications of their functions, are only crude, but, speaking generally, they form the basis of all scientific dietaries for use in health and disease.

Quantity and Kind of Food Required.—The selection of a suitable diet depends on various circumstances. The man at work requires more food than the one at rest, children require relatively more than adults, old people require less. Climate has an important influence on the amount and kind of food. More is required in winter than in

summer, especially of fat. The question of diet in illness is of great importance.

On pages 164-172 will be found a series of diet tables specially adapted for use in certain diseases.

The Importance of Proteins in Diet.—It has been pointed out that proteins are the chief formative and reparative components of food; they are, therefore, of the greatest possible importance to the human organism. By their oxidation they not only provide heat and force, but without them the substance of muscular tissue could not be formed. It is obvious that, while those persons leading easy and sedentary lives with little muscular exercise require but a small allowance of protein, those who lead an active outdoor life, and who have much physical work to perform, or those who are recovering from exhausting illnesses, require a relatively large quantity.

Physiology of Digestion.—The first stage in the process of digestion takes place in the mouth. When food is introduced into the mouth, the teeth tear or grind it into smaller morsels, while the tongue keeps it in motion, mixes it well with the saliva, and finally gathers it into a mass or bolus ready for swallowing. This is the process of mastication, and simultaneously with it a chemical action is going on. The saliva serves not only to moisten the food, and thus prepare it for deglutition or swallowing, but also exerts some digestive action. Saliva is derived from the salivary glands. There are three large glands on each side of the mouth, the parotid, situated just below the ear and behind the jaw, the submaxillary, below the angle of the jaw, and the sublingual, beneath the tongue. The parotid discharges its secretion by a duct opening opposite the second molar tooth, and the submaxillary and sublingual by ducts opening near each other under the tongue. The saliva of the mouth is a mixture of the secretions from these, and from the many small salivary glands scattered over the tongue and over the sides, floor and roof of the mouth.

Salivary Digestion.—Saliva contains a ferment, ptyalin, which has the power of digesting starch, by changing it into sugar, in which form it can be easily absorbed. Ptyalin acts best in a neutral or slightly alkaline medium. The saliva, which is normally alkaline, is therefore favourable to its action, while the gastric juice, which rapidly becomes acid

during digestion, is less favourable. When, therefore, food is eaten which contains starch, part at least of the starch is digested before the food leaves the mouth; this action probably continues while the food is passing along the œsophagus, and even for a little time after it has reached the stomach.

Deglutition, or swallowing, is a mechanical action, partly voluntary, partly involuntary. The first part consists in pressing the tongue against the hard palate, thus pushing the bolus of food through the pillars of the fauces to the back part of the tongue and pharynx. The rest of the process is involuntary. By muscular contractions, passing downwards, the bolus is thrust quickly through the pharynx, and more slowly through the œsophagus to its lower end. The opening between the gullet and stomach is normally closed, but the presence of food in the lower end of the gullet causes it momentarily to relax, and the bolus passes into the stomach.

Gastric Digestion.—When food enters the stomach, churning movements are set up, and gastric juice is poured out by the glands situated in the stomach walls. By the movements the food is thoroughly worked up with the gastric juice, until it becomes a semi-liquid mass, called the chyme. The gastric juice is an acid liquid which contains two ferments, pepsin and rennin. The principal action of gastric juice is upon the proteins of the food, which it changes into absorbable peptone. This is effected by the combined action of the pepsin and the acid; neither of these can digest proteins by itself. The rennin has the power of curdling milk by coagulating the caseinogen. If, therefore, milk forms part of a meal, it will be curdled immediately after entering the stomach, either by rennin alone or by rennin and hydrochloric acid together. The casein and other proteins in milk are subsequently digested by the pepsin and free acid. In spite of the action of pepsin and free acid, it is probable that in an ordinary mixed diet a large part of the protein in the food escapes from the stomach unchanged. The gastric juice also contains a fat-splitting ferment, lipase, which acts by breaking up the fats into fatty acid and glycerin.

During gastric digestion, the chyme is kept in constant circulation; mechanical disintegration of the food takes place, in addition to a breaking-up, due to digestion of connective and enclosing tissues and structures. At intervals the chyme is driven by strong peristaltic contractions of the lower end of

the stomach against the closed pyloric sphincter, which from time to time relaxes and allows some of the matter to pass into the duodenum. While this is going on the fully-digested carbohydrates and proteins, in the form of sugar and peptones, are continually being absorbed through the gastric mucous membrane. From four to five hours are usually required to empty the stomach completely after a meal.

Intestinal Digestion.—When the chyme passes from the stomach through the pyloric orifice, it enters the duodenum or first part of the small intestine, and is carried along the intestine by regular peristaltic movements of the walls. At the moment it leaves the stomach it contains the following constituents of the food-stuffs:—

- (1) The greater part of the fats.
- (2) All the proteins which have not already been digested, by being converted into peptones.
- (3) All the starch which has not already been converted into sugar.
- (4) Some peptone and sugar.

The digestive agents acting in the small intestine are the pancreatic juice, secreted by the pancreas, the bile, secreted by the liver and stored in the gall-bladder, and the intestinal juice, secreted by glands in the walls of the intestine. These secretions are mingled together in the small intestine, and act not in succession but simultaneously. From the very beginning of digestion, the pancreas is said to be stimulated in some way by the presence of food in the mouth or stomach to pour out a certain amount of its juice into the duodenum; while the secretion of bile, which is continuous, becomes more active, and the gall-bladder gets gradually fuller as the meal proceeds. When the chyme is squirted into the duodenum from the stomach, still more pancreatic juice is poured out, there is a discharge of bile from the gall-bladder, and intestinal digestion begins.

Pancreatic juice and bile act together on all the food substances in the chyme. Pancreatic juice contains a protein-digesting ferment, trypsin; a starch-digesting or sugar-forming ferment, amyllopsin; and a fat-splitting ferment, steapsin.

The ferment action of trypsin is very similar to that of pepsin, but more powerful. It converts proteins into peptone, and can further split up the peptone into crystalline nitrogenous substances, differing greatly from proteins. This latter process takes place in normal digestion, and most at any rate of the protein is thus broken down in the intestine.

Amylopsin has the same effect as ptyalin, that is, it changes starch into sugar. Its action is, however, much more powerful than that of the salivary ferment.

Steapsin, in conjunction with the alkalis of pancreatic juice and with bile, acts upon fats. The digestion of fats is not effected by either the pancreatic juice or bile alone. Together they can do much more than either could accomplish by itself; the effect of their united action is to emulsify the fats, *i.e.* to reduce them to a state of extremely fine division, and further decompose them into fatty acids and glycerin, in which form they are absorbed.

Absorption of Food-stuffs.—Absorption of the products of digestion (peptone, sugar, etc.) takes place as they pass through the small intestine. Very little water, however, is absorbed; this process begins when the large intestine is reached. As water is abstracted, the contents of the bowel thicken and form the feces. They consist of the undigested and indigestible remains of the food, together with mucin secreted by the walls of the large intestine.

Principal Foods.—Meat is the chief source of protein, and is therefore a very important food. It is composed of muscle fibres held together by connective tissue, with a varying amount of fat.

The digestibility of meat varies according to the animal from which it is taken, and according to the method of cooking. Raw meat finely minced is very digestible.

Cooking has the effect of improving the taste and flavour of meat. It so alters the texture of the meat as to render it more easy of mastication and subsequent reduction to a fluid state by the stomach. The connective tissue between the muscular fibres is converted into gelatin, and in this form it is more soluble.

There are six common methods of cooking, namely: boiling, stewing, roasting, broiling or grilling, baking and frying.

Boiling.—This may have for its object either the extraction of the nutritive principles from the meat or their retention in it.

If it be required to extract all the goodness of meat, as in making soup or broth, the meat is cut up finely and placed in cold water. After it has soaked a little time, heat is applied gradually so as not to allow actual boiling for some time. In this way much of the albumin is extracted before the

subsequent greater heat has been able to coagulate it. By this treatment the meat yields its essential principles to the surrounding liquid, which gains in flavour and nutritive properties.

If it be not desired to extract the constituents from the meat, it should not be cut up, but left as a large piece, and plunged suddenly into hot or nearly boiling water and quickly brought to boil. By this treatment the albuminous matter on the surface of the meat is coagulated, the pores are closed, and an impermeable covering is formed which prevents the juices from the inner and deeper parts from escaping. Meat loses about 20 per cent. of its weight by boiling.

Stewing.—In this process the meat is heated with water at a temperature of about 160° F. or so. This can be easily done by cooking the meat in a double saucepan, the inner one being immersed in the outer one containing water. The water in the outer vessel may boil, but the inner one never does. If stewing is done at a higher temperature, the albumin is coagulated and the meat gets hard and tough.

Hashing is the same process as stewing, only that the meat has been previously cooked instead of being fresh.

Roasting.—In this process the juices of the meat are retained with the exception of those which escape as gravy on the dish. The meat is subjected to dry heat radiated from the fire. The high temperature forms a thin crust of hardened and half-carbonised albumin on the surface; this prevents the evaporation of the meat moisture, sets up a certain amount of pressure inside the joint, and causes a gradual loosening of the fibres as the temperature of the deeper parts is slowly raised.

Broiling or Grilling.—The principle is the same as in roasting, but the scorching of the surface is greater, and the cooking is performed more quickly owing to the larger surface exposed to heat.

Baking.—In baking, the operation is carried on in a confined space such as an oven. Owing to the limited space and want of ventilation in the oven, the condensed vapour and fatty acids from the meat are prevented from escaping, and meat so cooked is richer.

Frying.—Frying is a bad way of cooking meat for invalids, as, owing to the heat being applied through the medium of fat, the article so cooked is penetrated with oily matter and is often indigestible.

Albumin absent from Beef-tea.—In view of the importance of albumin in dietary, it is a matter for some surprise that the average housewife, and, for the matter of that, nurses of the older school as well, should credit beef-tea and beef extract with a wholly fictitious value in the nourishment of the weak. Until recent years it has been customary to look upon beef-tea as the mainstay of the convalescent, and traditions die hard. When the vitality of the patient was at a low ebb, and it was desired to fortify him with nourishing stimulants, the old-time nurse had nothing better to give him than beef-tea made direct from the meat, or prepared with the beef extracts and *bouillons* of the market.

It was supposed that such preparations contained all the nourishment of the beef, whereas, owing to the methods usually adopted, that is precisely what they do *not* contain. The reason why ordinary beef-tea and beef extract contain no albumin is because this substance is soluble in water only at a low temperature. As the temperature of such a solution is raised, the albumin coagulates and separates in the form of white curds. This often happens during the usual preparation of beef-tea, beef extracts and *bouillons*.

The Cold Process.—When the above facts became known to scientific chemists, the importance of discovering a method of preserving the active *nutritive* constituents of beef, in a pleasant and concentrated form, became manifest. After much research a process was elaborated by which the actual *nourishing* principles of beef could be extracted *in the cold*, thus avoiding the coagulation and removal of the albumin.

A Standard Preparation.—The Perfected Wyeth Beef Juice contains not only the stimulating principles of beef which are found in beef-tea and beef extracts, but also the strength-giving constituents which these latter do not provide. It has the further advantage of presenting these valuable elements to the weakened digestive organs of the invalid in an *unaltered and soluble form*. The fine natural beef flavour is also perfectly preserved. The ready digestibility and high state of concentration of the Perfected Wyeth Beef Juice render it of supreme value in sickness and convalescence. Physicians often rely upon it when it is essential to give immediate sustenance, combined with a

natural, rapidly-acting stimulant. It is superior to alcoholic stimulants on account of its food value and its freedom from depressing after-effects.

Expert Evidence.—The *Lancet*, reporting on this preparation, says: "The Perfected Wyeth Beef Juice has received critical attention in the *Lancet* laboratory, and the results obtained on analysis gave indisputable evidence of the excellence of this preparation, containing as it does not only the albuminous principles of beef in an active and soluble form, but in the condition in which they occur in the freshly expressed juice of the beef itself."

The *British Medical Journal* reports: "Containing all the characters of the finest beef, rich in serum albumin, and palatable, this highly-concentrated product is a good model of what such preparations should be, and is much used as a tonic food in sickness and all stages of convalescence."

Some Uses of Wyeth Beef Juice.—Many uses for such a preparation will at once suggest themselves. So concentrated a nutritive is, in fact, a "golden bridge" for use in all forms of sickness and during convalescence. One teaspoonful represents in nourishing and stimulating power three ounces of prime lean beef.

It has been proved by clinical trial to be of great value as a sustainer of life during exhausting febrile diseases and all debilitating sicknesses. In nervous or muscular prostration, in consumption, and during convalescence from severe illness, it is highly spoken of by physicians as a natural and readily assimilable restorative food. Great benefit is derived in such conditions from taking one-half to one teaspoonful in half a tumblerful of cold or iced water or milk, as required.

Physicians, barristers, literary men, nurses, students and all subject to brain-fag or other effects of overwork will find that one half-teaspoonful, in about half a tumblerful of aerated water or milk, taken at intervals during the day, and at bedtime, will relieve fatigue, both of mind and body.

Milk.—Milk constitutes the chief diet of infants and children, and also enters very largely into the food of adults. Human milk and cow's milk are the most important kinds, but the milk of goats and asses is also used.

Composition.—Milk contains all the four classes of food principles—proteins, carbohydrates, fats, mineral salts and water.

The following table shows the composition of human and other varieties of milk :—

Kind of Milk	Water	Proteins	Fats	Carbo- hydrates	Salts	Sp. Gr.
Human ...	87.4	2.3	3.8	6.2	0.3	1027
Cow's ...	87.1	3.5	3.6	4.8	0.7	1032
Asses' ...	89.6	2.25	1.65	6.0	0.5	1026
Goat's ...	85.7	4.3	4.8	4.5	0.7	1032

The principal protein compound present in milk is caseinogen, and there is also an albumin called lact-albumin, which is similar to serum albumin.

The carbohydrate of milk is a peculiar sugar called lactose or milk sugar. This is converted into lactic acid by certain microbes which get into the milk from the air; the milk then becomes sour.

The salts of milk are very numerous, being composed of all the mineral constituents necessary to the growing body.

When milk is heated to boiling, the albumin is coagulated, and the milk is altered in appearance and taste.

If milk be allowed to stand for a time, it separates into two distinct layers. The fat globules in the milk, being lighter than the rest, slowly rise to the surface, and the upper layer is therefore richer in fat. This constitutes the cream, and the lower part, which is known as *skim milk*, contains very little fat. The cream can be more quickly and thoroughly separated by centrifuging, and after the cream is removed, the remainder is known as separated milk. Skim milk contains about one per cent. of fat, but separated milk, practically none.

Sterilisation.—Sterilisation of milk is accomplished by boiling for 10 minutes or longer. This is sufficient to kill all the living bacteria present, but spores are not destroyed.

Pasteurisation.—In this process the milk is heated to 160° F. and kept at this temperature from 20 to 45 minutes. It is then rapidly cooled to 40° or lower. Pathogenic bacteria are destroyed by this temperature, and it is claimed that the natural taste and quality of the milk are retained.

Digestion of Milk.—The rennin and hydrochloric acid of the gastric juice cause coagulation of the caseinogen, forming milk curds. These are gradually changed into peptones and albumoses and absorbed. *Peptonised milk* is made by adding pepsin or pancreatin to the milk. This may be done by the use of 'Zymine' Peptonising Tubes, 'Fairchild.'

'Zymine' is a preparation containing *all* the digestive ferments of the pancreas in a pure and active state. The contents of each tube are sufficient to peptonise one pint of milk in ten minutes, at a temperature of about 100° F. At the end of ten minutes, excessive peptonisation, which produces a bitter taste, should be prevented by cooling on ice or by boiling.

Peptogenic Milk Powder, 'Fairchild,' may also be used for this purpose. The powder is first dissolved in water by rubbing and stirring with a spoon, the milk is added and the whole well mixed. It is then heated to a temperature of about 98° F., kept at this temperature for about 10 minutes, and then quickly brought to boiling point. It is then poured into a clean bottle, shaken up, tightly corked and placed in a cold place or on ice.

Humanised Milk.—Very great stress is often laid upon the importance of breast feeding for infants. The constituents of normal human milk are undoubtedly best adapted to the maintenance of health in a new-born babe. In this the instincts of nature and the teachings of science, which is the interpretation of nature, are at one.

Unfortunately, owing to defective physique, over-civilisation, or other causes, many mothers are unable or unwilling to perform this duty, and there are also cases where the secretion of milk is quite inadequate, and where, in consequence, the infant at the breast is being starved.

The alternative, for the first six months, is cow's milk, but this may be greatly improved and rendered an efficient alternative to the mother's milk by suitable treatment.

The most valuable constituents of all milks are protein, lactose (milk-sugar) and fat. Cow's milk often contains almost double the amount of protein found in human milk, but a smaller proportion of lactose. The amount of fat is about equal.

In preparing cow's milk for an infant, a nurse usually boils it and adds an equal part of water. But this has the effect

of still further diminishing the proportion of sugar and also of halving the percentage of fat. Moreover, cow's milk thus administered is apt to form somewhat large masses of curd in the stomach, and in many cases causes constipation.

To remedy these defects and bring up the diluted milk to the correct standard, the following formulæ should be used.

They are based on examination of normal human milk, which is not always the same, but varies slightly from the period of birth onwards, in a healthy mother, in accordance with the food requirements of the child.

The addition of 'Kepler' Malt Extract is very advantageous, because it contains, in a high degree of activity, the digestive principle, diastase. 'Kepler' Malt Extract has the effect of reducing the milk in the stomach to a finely-divided curd which is readily assimilable. The maltose contained in it presents an ideal form of sugar for infants, and the process has the advantage of being the simplest known method of preparing humanised milk.

The milk used should be either boiled or Pasteurised (*i.e.* kept at a temperature of 160° F. for 20 minutes), and mixed in accordance with the age of the child as follows:—

For a new-born babe and up to 14 days.	Cow's milk	4½	ounces	Give three tablespoonfuls every two hours.
	Water	9½	"	
	Cream	1½	"	
	'Kepler' Malt Extract... ..	1	"	
From 14 days to one month.	Cow's milk	4½	"	Give five tablespoonfuls every two hours.
	Water	9½	"	
	Cream	1½	"	
	'Kepler' Malt Extract... ..	1	"	
From one to three months.	Cow's milk	9½	"	Give eight tablespoonfuls every 2½ hours
	Water	16	"	during the day and
	Cream	2½	"	once during the night.
	'Kepler' Malt Extract... ..	1	"	
From three to six months.	Cow's milk	12	"	Eleven tablespoonfuls every three hours during the day.
	Water	13	"	
	Cream	2	"	
	'Kepler' Malt Extract... ..	1	"	
From six to nine months.	Cow's milk	17	"	Fourteen tablespoonfuls every 3½ hours during the day.
	Water	8	"	
	Cream	1½	"	
	'Kepler' Malt Extract... ..	1	"	

Enough humanised milk for one day may be prepared in accordance with the appropriate formula. The quantity required for each feed should be warmed up, but not boiled, before use, as boiling destroys the diastatic properties of the malt.

Soured Milk.—Milk soured by a special strain of organism (*Bacillus bulgaricus*) has been said to act as an intestinal disinfectant by inhibiting the growth of putrefactive organisms in the large intestine. Soured milk has a certain laxative effect, and is useful in constipation.

Vegetable Foods.—These contain less protein than animal foods, but more carbohydrate. Fat is also present in the form of vegetable oils. The mineral matter consists chiefly of salts of potassium and sodium, united with organic acids.

The carbohydrates of vegetables are starch, sugar and cellulose. The latter is practically indigestible, and is excreted unchanged. Raw starchy foods consist of granules of starch enclosed in envelopes of cellulose; when boiled, the coating of cellulose is burst, liberating the starch, which forms a paste and thus becomes digestible.

The most important class of vegetable food is the group of cereals—wheat, barley, oats, rye and maize.

Wheat is the principal cereal used in the making of flour, though the others are also used to a smaller extent.

Wheat-flour is of two kinds, the one ordinarily used being white, the other, whole meal, being of a dark colour owing to admixture of bran.

The chief flours on the market are, in the order of their excellence: Vienna whites, best whites, best household, second household, and others much inferior in quality. There are also brown meal and whole meal. If the whole wheat is used, it should be ground very fine, as the harder envelopes are irritating, and for sick persons with any bowel complaint bread must be used entirely without bran. For healthy persons, there is no doubt that whole meal bread, well made, is more nutritious than the fine white bread now so generally used.

The principal constituents lost with the bran are fats, salts and cellulose, and there is also a certain loss of nitrogenous matter.

Bread is made by mixing flour with water in proper proportion, adding a little salt and yeast. The mixture is well kneaded and forms dough. It is then set aside for a time, during which fermentation takes place. The yeast acts on the starch, some of which is converted into sugar and then into alcohol and carbon dioxide. The latter escapes and

causes the dough to become traversed by a number of little cavities, thus rendering it light and spongy. The bread is then baked, and during this process the yeast cells are killed, and the carbon dioxide and alcohol driven off.

Bread is rich in starch and contains sufficient protein, but is poor in fats and salts. Its poverty in fat is shown by the general practice of eating it with butter.

Barley.—In composition, barley is similar to wheat, but the barley grains when mixed with water do not form gluten as occurs with wheat, and on this account it is not used for making bread. When the whole barley grain is ground it forms barley-meal; when deprived of its husk and roughly ground it constitutes Scotch, milled or pot barley. Pearl barley is the grain deprived of the husk, rounded and polished by rubbing. Barley water is prepared from pearl barley, and forms a slightly nutritive liquid for infants and the sick.

Malt is the product yielded when barley has been allowed to germinate. As a result of this process the starch of the grain is largely converted into sugar by the development within it of a peculiar active nitrogenous ferment called diastase.

Potatoes are chiefly made up of starch. They contain a small amount of protein and also vegetable acids and salts.

When boiled the heat coagulates the albuminous juices, and the absorbed water swells up and distends the starch grains. When these changes are complete the potato becomes mealy or floury, and is ready for eating.

Vegetables.—Green vegetables are valuable not so much on account of their nutritive properties as for the variety and relish which they give to the diet.

They contain a large amount of salts, and have valuable anti-scorbutic properties.

The principal green vegetables in use are cabbages, cauliflower, spinach, lettuce, celery, beans, tomatoes and asparagus.

Fruits are valuable on account of their palatability. The chief nutritive principle of fruit is sugar. There are also present in fruits organic acids—tartaric, citric and malic—and a small amount of protein. The presence of certain essential oils and compound ethers gives to fruits their flavour and odour.

Fruits vary in their digestibility, among the more digestible being oranges, lemons, grapes and peaches. Slightly less digestible are raw apples, pears and bananas. Stewed fruits are more easily digestible than raw.

Oranges and lemons may be given to invalids for their efficiency in allaying thirst.

Sugar is a valuable and widely employed article of food. It is made from the sugar-cane or the beet.

Honey contains a large proportion of sugar, also dextrine, phosphoric acid, protein, and a small amount of wax. Saccharin is a chemical compound about 300 times as sweet as cane sugar. It is recommended as a substitute for sugar in cases of diabetes.

'TABLOID' BRAND SACCHARIN

This product presents pure saccharin in accurately-measured products extremely convenient for use. Saccharin passes through the system unchanged, and may be employed whenever the use of sugar is forbidden. 'Tabloid' 'Saxin,' the purest and most powerful sweetening agent known, is, however, often preferred.

'TABLOID' BRAND 'SAXIN'

'Saxin' is a delightful sweetening agent, more delicate in flavour and much more powerful than saccharin, and about 600 times sweeter than sugar. It has been aptly described as "the sweetest thing on earth." Each 'Tabloid' product is equal to a lump of sugar, and should be used in the same way in beverages or food. 'Saxin' can be taken without ill effect by those who suffer from diseases in which sugar is forbidden, so that, with its help, dishes to which such patients are restricted may be rendered palatable without danger.

Tea consists of the leaves of an evergreen shrub, *Camellia thea*, which grows in China, Japan, India and Ceylon. Teas are divided into two great classes, green and black, the latter being most used. An infusion of black tea contains less tannic acid than one of green tea.

As an article of diet, tea has practically no nutrient value, but has a decided stimulating and restorative action, due to the presence of caffeine. Tea retards the process of digestion, and excessive consumption of it may lead to digestive troubles.

Coffee is prepared by roasting and grinding the seed or berry of the *Coffea arabica*, a plant grown chiefly in Arabia, Ceylon and the West Indies. Like tea, coffee contains caffeine, to which it owes its power of stimulating the nervous system, and removing the feeling of fatigue. A cup of coffee contains $1\frac{1}{2}$ to 3 grains of caffeine. Owing to the presence of certain aromatic principles in it, coffee has a carminative action on the stomach, and this explains the universal custom of the after-dinner cup of coffee.

Cocoa is prepared from the seeds of the cacao tree. The seeds are ground and sugar or starch added.

Cocoa has some stimulant effect, but not so much as tea or coffee. It has, however, more restorative action on muscle tissue, and also possesses a marked nutritive value. It is very useful, as a nourishing beverage, for convalescents and children.

Chocolate is prepared from cocoa by adding starch, sugar, and flavouring substances. Its properties are similar to those of cocoa.

'TABLOID' BRAND TEA

'Tabloid' Brand Tea provides the most convenient and portable means of preparing tea of uniform strength. The tea is absolutely pure and of the finest quality, while the manner in which it is prepared altogether prevents waste. No teapot is required, but one or more 'Tabloid' products (according to taste) need only have a cupful of boiling water poured on them. The infusion should be stirred, allowed to stand for three minutes, and then poured off the leaves. In the sick-room 'Tabloid' Tea is of specially marked utility, both for patient and nurse. 'Tabloid' 'Saxin' affords a convenient means of sweetening this and other beverages. 'Tabloid' Brand Tea is issued in two qualities; a pure tea of high quality and delightful flavour, and a *Special Blend* of the very choicest varieties.

Malt Liquors.—Beer is made by fermenting malt and hops by means of yeast.

Porter and stout are also prepared from fermented malt, but are flavoured with roasted malt, to which also their dark colour is due.

As articles of diet, malt liquors taken in moderate quantities are all of some value. They increase the appetite, and aid

digestion by stimulating the secretion of gastric juice. They have also considerable nutritive value, on account of the large proportion of carbohydrates (sugar, etc.) which they contain. Malt liquors should not be given in diabetes, obesity, and gouty conditions.

Spirits.—Spirits contain much larger proportions of alcohol than other alcoholic beverages. They are prepared by fermenting and distilling certain saccharine or starchy substances, such as corn, molasses, etc. By the process of distillation other products besides alcohol are formed, and it is these by-products which give spirits their characteristic odour and flavour.

Whisky is prepared by distilling fermented grain (wheat, oats, etc.). It contains from 50 to 58 per cent. by volume of alcohol. The quality and flavour of whisky improve with age.

Brandy is prepared by the distillation of fermented grape juice, and contains from 46 to 55 per cent. by volume of alcohol. The quality of brandy depends on its age, and on the variety of grapes from which it was prepared.

Rum is distilled from fermented molasses; its peculiar flavour is due to certain by-products.

Gin is produced by the distillation of a fermented liquid obtained from a mixture of malt and barley. It is flavoured by the addition of juniper berries and other aromatic substances.

Liqueurs and bitters contain large proportions of alcohol and of sugar and essential oils.

The chief constituent of spirits is alcohol, which in small quantities improves the appetite and stimulates the heart's action.

Wines.—Wine is the fermented juice of the grape. The juice is obtained from the grape by crushing, and fermentation takes place by the action of bacteria derived from the skin of the grapes.

Among the constituents of wine are alcohol, ethers, sugar, acids and salts. The different kinds of wines owe their distinctive characters to the different ingredients they contain, the varying proportions of these ingredients, the kind of grape used, the method of manufacture and other factors.

Wines taken in moderate quantities increase the appetite, and by stimulating the secretion of gastric juice lead to improved digestion.

'BIVO' BEEF AND IRON WINE

This valuable and palatable preparation combines stimulant, nutritive and tonic properties. The beef and iron are dissolved in a pure detannated wine, which does not precipitate the nutritive elements of the beef, but retains both beef and iron in an acceptable and readily assimilable condition. The combination forms a highly-concentrated strength-giving food and tonic, which is especially useful in conditions of anæmia and weakness. Ladies of delicate constitution derive great benefit from its strengthening qualities. For invalids and for convalescents it is admirable, being pleasant to take, easy of assimilation, and well borne even by the most debilitated. It improves the appetite, increases strength and invigorates the system generally.

'VANA' BRAND TONIC WINE

'Vana' Brand Tonic Wine is a scientific combination of pure wholesome tonics and stimulants. It presents calcium glycerophosphate and the alkaloids of cinchona bark in a pure and sound wine of excellent quality. It has the specific action of quinine, and possesses the great advantage of being readily digested and assimilated by those who experience unpleasant after-effects from the administration of quinine. 'Vana' is very useful in malaria and other fevers, on account of its anti-periodic, antipyretic and tonic properties.

In convalescence and all conditions of debility, 'Vana' is an ideal vitalising tonic and restorative. It hastens recovery, renews strength, promotes appetite and aids digestion.

In conditions of strain and worry, such as every nurse must at times experience in the performance of her duties, a course of 'Vana' will be found to infuse new life and vigour into the overwrought system. It dispels lassitude and depression, and increases the capacity for mental and physical effort. During exposure to infection a daily dose of 'Vana' serves to fortify the system and maintain the vitality.

'Vana' Tonic Wine is pleasant to take, and is prompt and vigorous in its action.

Diet for Invalids.—In hospital the nurse has but little latitude as to diet. The patients are necessarily fed by rule, and the most the nurse can do is to see that what is ordered is presented in as appetising a condition as possible. In private and district nursing, however, there are no such

routine arrangements. No nurse is fully qualified for her profession unless she can cook, and show others how to cook, the dishes generally used in the sick-room. Moreover, she should study how to prepare common foods in such a way as to make them appetising to an invalid. There are very few, if any, flavourings used in the kitchen, which, employed discreetly, are out of place in the sick-room.

A patient who can feed himself should be propped up well during meals. A bedroom chair laid on its side behind the bolster makes a capital bed-rest. The food and the plates should be warm—a hot water chafing dish is an invaluable adjunct to a sick-room—and as daintily set out as circumstances permit. The medical attendant will indicate the dietary which must be followed by the patient.

Diet for Convalescents.—When a patient is convalescent, and it is desired to give the most nourishing articles of food which the weakened organs of digestion can assimilate, a nurse can do a great deal in aiding the process of recovery. The avoidance of anything like monotony in the bill of fare from day to day is even more necessary than during sickness. During convalescence the Perfected Wyeth Beef Juice has proved most valuable. In addition to being a very nourishing and digestible preparation, it is pleasant to the taste, and can be utilised in many ways. For instance, the tastelessness and somewhat low nutritive value of tripe or boiled fish are both entirely remedied if a little of this beef juice, diluted with water, milk, or some appropriate sauce (not too hot), be added to the dish just before it is served. A small teaspoonful added to a bowl of soup (after it has become sufficiently cool not to coagulate the albuminous constituents of the beef juice) will improve its flavour and increase its nutrient value.

Diet before and after an Operation.—Only very light easily digested food is given on the day preceding an operation. Liquids other than milk are generally allowed only until an interval of six hours is left. During these hours, nothing but water, and that only in small quantity, is given. This is to lessen the danger of nausea and to prevent the presence of much residue in the intestine. Care should, however, be taken not to starve the patient unduly. After an operation, patients have an intense thirst, owing to

the drying up of the mucous membrane by the anæsthetic. To relieve this, the mouth should be rinsed out with two per cent. Boric Acid Solution ('Soloid' Boric Acid, gr. 15, three products to five ounces of water). If a sip of water is permitted, it should be given either hot or cold, not lukewarm, and only in teaspoonful doses.

As a rule no nourishment is allowed for twelve hours after a major operation. When nausea is controlled, a fluid diet is given in gradually increasing quantity, beginning with one or two ounces. Milk, egg albumin, chicken or other broths, are given, and sometimes a little weak tea or coffee. Wyeth Beef Juice, diluted with a small quantity of mineral water, makes an ideal stimulant and nutritive drink.

Milk is not given after operation on the perineum or rectum, nor when there is tendency to flatulence. Solid food is given as soon as the patient's condition warrants it, beginning with jellies, custards, eggs, oysters, toast and similar light articles of diet. (*See "Duration of Digestion," page 158.*)

After tracheotomy or operations on the mouth, nourishment is sometimes given by the nose. When this is done, great care must be taken to pass the catheter far enough into the œsophagus to prevent the food being thrown back into the mouth.

After stomach operations food is generally given by the rectum, or in some cases through a catheter inserted by means of a valve in the stomach wall.

Feeding by the Rectum.—Although the old-fashioned nutrient enemata are to a great extent superseded by the Predigested Meat and Milk 'Enule' Suppositories, which afford by far the best means of feeding by the bowel, it is necessary for a nurse to know how to administer nutrient fluids per rectum, as some practitioners still prescribe them. Stimulants also are sometimes thus administered. The enema syringe should be small-nozzled. A soft catheter connected with a funnel, into which the food can be poured slowly, is even better than a syringe. In practice, an ordinary two-ounce glass "urethral syringe" has been found to answer admirably for children. It is vitally important not to irritate the bowel, or in any way to provoke expulsive movements. The food should be injected slowly and in small quantities, from two to four ounces at a time generally being sufficient.

The Predigested Meat 'Enule' Suppositories and Predigested Milk 'Enule' Suppositories contain these foods in a peptonised and readily assimilable form. They are easily introduced even by unskilled persons, and cause no discomfort. The sheath of tinfoil which protects them from contamination must, of course, be removed before use. These products are markedly superior to ordinary beef-tea and milk, and have the valuable quality of keeping well. A few ounces (3 to 6) of warm water (preferably distilled) should be injected and retained occasionally if the patient be quite unable to swallow. This is necessary to combat the thirst common in cases requiring rectal feeding.

Comparative Digestibility of Foods.—In the following list, the various articles of food are given in the order of their digestibility as laid down by authorities on dietetics. Much, however, depends upon methods of preparation and upon the skill of the cook, as well as upon the quality of the articles chosen.

Rice, tripe (stewed), eggs (raw, whipped, lightly boiled, or poached), baked apples (the pulp only), trout, soles, plaice, whiting, pearl barley, milk (boiled, or in the form of junket), cod, turbot, sweetbread, oysters (raw and minced), fricasseed chicken, lamb (roast), venison, most stewed fruits, liver, potatoes (baked and floury), stale bread and butter, turkey, most game, fowls, mutton, beef (roast and not overdone), sucking-pig.

The following articles are best avoided, as a rule, when the digestive powers are weak :—

Veal, fresh pork, salt beef, duck, new bread, cooked shell-fish, all "made dishes" and meat that has been cooked twice, boiled potatoes (if sodden or "waxy"), salt pork or bacon, stringy vegetables, pastry.

It must also be borne in mind that individuals differ considerably in their power of assimilating certain foods. A weak stomach can be greatly aided by thorough mastication of the food. A patient should be reminded of this, and encouraged to eat slowly. It is part of a nurse's duty to see that the invalid has his meals undisturbed, and that his surroundings, both while eating and afterwards, are favourable to the digestive process.

Duration of Digestion.—The approximate time needed for the digestion of some principal foods is given in the following table :—

Beef, boiled	...	3 hours
Beef, roasted	...	3 to 4 hours
Beef, smoked	...	4 to 5 hours
Fish, boiled	...	1½ to 2½ hours
Oysters (raw)	...	2 hours
Lamb	...	2½ hours
Milk	...	2 hours
Mutton, boiled	...	3 hours
Mutton, roasted	...	3 to 3½ hours
Pork, roasted	...	5 hours
Poultry, boiled or roasted	...	2½ to 4 hours
Goose, roasted	...	4 to 5 hours
Tripe	...	1 hour
Veal (as prepared in British Isles)	...	4½ hours
Sweetbread	...	2 hours
Ham, boiled	...	2 to 3 hours
Eggs, raw	...	2 hours
Eggs, fried or boiled hard	...	3 to 3½ hours
Cheese	...	3 to 4 hours
Apples	...	3 to 4 hours
Carrots	...	3 to 3½ hours
Cabbage	...	} 3½ to 4 hours
Turnips	...	
Potatoes	...	2½ to 3½ hours
Rice	} if completely cooked	... 1 to 2 hours
Sago		
Tapioca		
Wheaten bread	...	3 to 4 hours

The time taken for digestion depends greatly upon a number of varying conditions which cannot be specified here, and not least upon the degree of sub-division of the food portions effected in mastication. It is essential that the meats should be sufficiently and properly cooked, but over-cooking appears to retard digestion.

Malt Extract as a Food.—The selection of a malt extract for the use of infants and invalids is an extremely important matter. This has been recognised by the majority of physicians, who carefully indicate 'Kepler' Malt Extract on their prescriptions and diet charts.

'Kepler' Malt Extract is prepared from winter-malted barley only, and contains a high percentage of diastase, carbohydrates, albuminoids and natural phosphates.

The premier position of 'Kepler' Malt Extract is well recognised by the medical profession throughout the world. The process of manufacture has been brought to perfection by many years of careful experiment and practical experience. All the nutritious principles of the grain are secured in properly balanced proportions, and the product is at the same time very active, highly concentrated, and most palatable. 'Kepler' Malt Extract is not only a powerful food but also a digester of foods, and is eminently suited for use as a restorative in exhaustion, sickness and convalescence. It is relished by children and the most fastidious invalids. The high esteem in which the medical profession has always held the 'Kepler' Malt Extract is amply endorsed by the following reports :—

"The 'Kepler' is the best known, and the largest used extract of malt. It is as distinct an advance in therapeutics as was the introduction of cod liver oil."—*Lancet*.

"We can recommend the 'Kepler' Malt Extract. Being prepared at a very low temperature, its qualities are not deteriorated, nor is its flavour spoiled. It is very favourably spoken of by physicians, both in respect to its nutritive and digestive properties, and as being of a very agreeable flavour."—*British Medical Journal*.

"Is acknowledged to be the perfection of a concentrated and nutritious food. It is undoubtedly the best and the most largely used."

"It is not only unsurpassed but unequalled, and is the extract of malt which every physician prescribes."—*Medical Record*.

Uses of 'Kepler' Malt Extract.—The great value of the 'Kepler' Malt Extract is due to the presence of all the active ingredients of the finest malted barley in full proportions, so that it is at once a digestive, a tonic, a nutrient and an alterative. Its diastase renders soluble starchy substances taken into the stomach, and causes such foods as rice, corn-flour, potatoes, sago, tapioca, etc., to be more assimilable. Its maltose aids digestion, and is restorative and nutritious. Its nitrogenous constituents are compensatory of tissue-waste and force-expenditure. Its dextrins are also

nutrients, whilst its phosphates are alternatives and vitalising foods for brain, bone and nerve. In short, 'Kepler' Malt Extract is a "complete physical food," which contains the elements necessary to sustain and renew the organism.

Taken by itself, 'Kepler' Malt Extract is administered in quantities of one teaspoonful to two dessertspoonfuls, in water or milk, three times a day, after meals.

Digestible oatmeal porridge may be made by simply adding two dessertspoonfuls of 'Kepler' Malt Extract to each plateful of porridge, and mixing well together. It should not be added, however, until the porridge is cool enough to be eaten, as undue heat destroys the diastatic principles of malt extract. The action of the extract will soon be seen, the porridge becoming more fluid. This dish should always be available for children, as it is not only exceedingly nourishing, but is one well liked by them. In a similar manner, a plateful of sago, tapioca, rice, corn-flour, rolled oats, etc., may be sweetened, pleasantly flavoured and rendered digestible by the addition of two dessertspoonfuls of 'Kepler' Malt Extract.

Gruel for invalids may also be treated in the same way with advantage. A dessertspoonful of 'Kepler' Malt Extract added to a soup-plateful of warm gruel will be sufficient to digest the starchy material, and to render the gruel more nourishing and palatable.

Home-made lemonade, ginger-beer, etc., may be pleasantly sweetened and rendered nourishing by the addition of a sufficient quantity of 'Kepler' Malt Extract to produce the desired sweetness. It may also be used to sweeten coffee, tea, chocolate and cocoa, and it imparts to these beverages a nutritive value otherwise absent.

'Kepler' Malt Extract is a safe and useful adjunct to milk during the later periods of infancy.* If spread on bread, like honey, children take it with relish. One teaspoonful, gradually increased to a dessertspoonful, may be given to children under ten years of age, twice or thrice daily. Above that age, the dose is two dessertspoonfuls twice or thrice daily. Its flesh-forming value is soon manifested, and as it contains the phosphates of the grain, which are essential to the production of bone, its continued use does not produce any harmful effects, as is the case with

* For method of preparing HUMANISED MILK FOR INFANTS, see page 147.

many prepared infants' foods. For nursing mothers, 'Kepler' Malt Extract has a pronounced general nutritive effect, and increases the milk secretion where this is deficient.

A delicious nutritive beverage for those suffering from fever, gastric catarrh, gastric ulcer or dyspeptic trouble may be made with 'Kepler' Malt Extract and iced aerated water. A little may be given with plain or peptonised milk every 40 minutes, when necessary, in severe cases of illness.

An excellent strengthening draught is made by stirring up 'Kepler' Malt Extract with brandy or whisky, in which an egg has been beaten, or to which peptonised milk has been added.

The following combinations are also frequently prescribed:—

'Kepler' Malt Extract with Chemical Food (Phosphates Compound)

One teaspoonful to two dessertspoonfuls, twice or thrice daily, with or immediately after food, as ordered by the physician.

'Kepler' Malt Extract with Iron, Quinine and Strychnine (Easton)

One teaspoonful to two dessertspoonfuls may be taken, in milk or water if desired, two or three times a day, with or immediately after food, as ordered by the physician.

'Kepler' Malt Extract with Hypophosphites

One teaspoonful to two dessertspoonfuls may be taken, in milk or water if desired, two or three times a day, with or immediately after food, as ordered by the physician.

'Kepler' Malt Extract with Hæmoglobin

This combination of 'Kepler' Malt Extract with the natural iron constituent of the blood, is of special value to nurses suffering from the strain of overwork or the tension of a serious case. It presents iron in a condition which ensures assimilation without digestive disturbance; thus, while exerting a general nutritive effect on all the tissues, it enriches the blood and vivifies the circulation. It is an ideal preparation for anæmic and debilitated patients.

One teaspoonful to two dessertspoonfuls may be taken in milk or water if desired, two or three times a day, with or immediately after food, as ordered by the physician.

Cod Liver Oil as a Food.—Every nurse has had numerous opportunities of watching the gratifying effects resulting from the administration of cod liver oil. As is well known, cod liver oil is not only valuable as a dietetic preparation. It possesses alternative properties of the highest importance, and is much prescribed in a great variety of cases. There are, of course, well recognised objections to its use, such as its disagreeable flavour and smell, and the difficulty which many invalids and children find in digesting it. Unpleasant eructations commonly follow the administration of cod liver oil, and many sensitive patients positively refuse to continue its use. The trouble experienced by nurses in persuading the weakly and the sick to take cod liver oil, or the crude and highly-flavoured emulsions containing it, for a length of time sufficient to secure the good effects desired by the prescriber, is also a matter of common knowledge.

Gummy messes or alkaline soaps only add to the difficulty of digesting the cod liver oil which they so imperfectly mask, the acid juices of the stomach quickly reducing the oil to its original form. The invalid's weakened digestive organs have then to contend not only with the oil, which is itself very difficult of assimilation, but also with the indigestible emulsifying agents employed. These drawbacks occur even in cold weather, whilst in the warmer periods of the year the stomaclic derangements caused by these unscientific mixtures are still more serious.

The preparation of 'Kepler' Solution is founded entirely upon scientific principles, its basis being the extremely intimate incorporation of the oil in that excellent, nutritious and digestive food, 'Kepler' Malt Extract.

One of the most brilliant of therapeutic lecturers refers to this solution of cod liver oil in 'Kepler' Malt Extract as comparable to the association of bread with butter. It is obvious that if one were to attempt to eat butter alone, it would speedily cause a feeling of revulsion, although the same quantity spread upon bread would be quite acceptable. An exactly similar happy union is found in 'Kepler' Solution. It is a palatable combination of two valuable forms of food, rendered appetising and digestible.

It is to be remembered that the benefit to be derived from cod liver oil depends entirely upon the quantity absorbed,

not upon the quantity swallowed. It is useless, therefore, to continue the administration either of the plain oil or of emulsions when the greater proportion is voided unchanged, and thus wasted. This cannot occur with 'Kepler' Solution, because the association of 'Kepler' Malt Extract with the oil is so intimate that complete assimilation is ensured.

The *British Medical Journal*, in commenting upon this preparation, says: "The 'Kepler' Solution is a great advance on anything hitherto attempted in this direction. . . . It is an ideal form for the administration of fat. . . . The taste of the oil is agreeably disguised, its nutritive qualities are greatly increased, and it is rendered easy of digestion."

The *Lancet* also reports: "Many can take it easily who cannot take the oil."

Uses of 'Kepler' Solution.—Owing to the extreme palatability of 'Kepler' Solution, a word of warning is necessary. It is so well liked, both by adult patients and by children, that there may be a tendency to take larger doses than are necessary at the commencement of a course. This should be guarded against by beginning with small doses, and by gradually increasing the quantity as the 'Kepler' Malt Extract establishes a tolerance of the oil in the digestive tract. A teaspoonful or dessertspoonful may be considered sufficient to commence with, this quantity being taken plain, spread on bread or mixed with milk or water, as preferred. The dose may be gradually increased to two dessertspoonfuls three times a day, after meals.

'Kepler' Solution in Infancy.—Infant mortality is still far higher than it should be. So many lives which, if they could but be preserved for a single year, would get out of the danger zone, are lost for the sake of a little additional power of resistance.

In a great proportion of cases the trouble is due to insufficient or improper feeding. Too little nutriment or too much starch has been included in the diet. In both these conditions 'Kepler' Solution is useful.

If additional nutriment is required, 'Kepler' Solution supplies it; if too much starchy matter is already present in the stomach, the diastatic properties of 'Kepler' Malt Extract assist in its digestion.

SPECIAL DIETARIES

The dietetic regimen which accompanies the therapeutic treatment of certain diseases is a matter requiring very careful consideration, and medical men properly insist upon a scrupulous attention to their instructions in this connection.

The following diet lists are such as are commonly ordered, and the request has been made that they be printed here, so that a prescriber may instruct a nurse to adopt such-and-such a dietary for his patient, and thus be spared the dictation of the table of foods, etc.

It cannot be too strongly impressed upon the reader, however, that these dietaries are not intended for use by the nurse on her own responsibility. They are intended solely for use on the instruction of the patient's medical man.

Albuminuria

ALLOWED.—A liberal diet of readily assimilable food. Soups thickened with arrowroot, vermicelli, rice or barley. Fish, fowl, pigeon, game, lamb, tripe, sweetbread, calf's head, cow-heel, bacon (in moderation), butter, cream, eggs (in moderation); green vegetables, celery, onions, salads, mushrooms, artichokes, cauliflower, turnips; milk (plain, treated with 'Tabloid' Sodium Citrate, or peptonised), skim-milk, whey, koumiss, milk diluted with rice-water or barley-water; farinaceous foods, such as bread (stale), toast, rice, tapioca, vermicelli, arrowroot, sago, macaroni; tea, cocoa and coffee (in moderation); soda-water, Seltzer, Vichy (Hauterive), Ems, Vals, Salutaris, plain water (unless hard); in certain cases a little old whisky, freely diluted, or red wine in small quantity and freely diluted with water or suitable mineral water (*see* 'Tabloid' Brand Effervescent Mineral Water Salts, *page xl*).

FORBIDDEN.—Sugar, ices, sweets, pastry and sweet foods generally; new bread, butcher's meats, especially of the brown kinds; beef-tea, meat essences and jellies, strong soups; re-cooked meats, stews, hashes; highly-spiced foods, pickles and sauces; rich foods, such as hare, duck and goose; potatoes, peas and broad beans, except in great moderation; cheese; every form of alcohol (with the occasional exception of those previously named).

Anæmia

ALLOWED.—A full generous diet containing relatively much albumin; soups (unless there be dyspepsia, when the quantity should be very small); Perfected Wyeth Beef Juice; fish; meat of all kinds (except veal and pork), scraped, pounded or minced, when necessary, and, for preference, underdone; poultry, game, sweetbread, calf's head, tripe; bacon, toasted or well-boiled (never fried); eggs in any form except hard-boiled; all farinaceous foods, including wholemeal bread; 'Kepler' Malt Extract; vegetables of all kinds; all fruits; milk (plain, treated with 'Tabloid' Sodium Citrate, or peptonised), koumiss, whey, cream and butter; red wines, beer, stout or porter; chalybeate waters and mineral waters generally (*see* 'Tabloid' Brand Effervescent Mineral Water Salts, *page xl*); tea, coffee, cocoa. *Salt in abundance. Fluids, generally, in abundance.*

FORBIDDEN.—Pork, veal, highly-spiced foods, all re-cooked foods, vinegar and pickles.

GENERAL DIRECTIONS.—Meals should be frequent, not at long intervals. Some nourishment—hot or cold milk, with or without a little brandy, or tea made with milk instead of water—should always be given half-an-hour before rising.

It is a common experience that no remedies help the anæmia so long as the constipation lasts. Anæmic patients should take not less than 2-1/2 to 3 pints of fluid daily.

Constipation

ALLOWED.—Clear soups; fish; meat of all kinds, except veal or pork; poultry, game, ham, bacon; bread—white, brown or wholemeal; choose the coarser breads with bran and wholemeal when possible. The bread should be taken in fairly large quantities, and the kinds varied from time to time. It should never be new. The crust also should be eaten. Toast, with plenty of butter or dripping, is good. Gingerbread often acts well. Nuts are usually contraindicated, but in some cases Brazil nuts or dry walnuts, well masticated, appear to help. Oatmeal, crushed oats with sugar and milk, or golden syrup, or old-fashioned treacle, cabbage, broccoli, cauliflower, sprouts, French beans, endive, celery, spinach, salads with abundant oil; onions and Spanish onions; apples, stewed or baked; figs, prunes, dates, Normandy pippins or pears, stewed; oranges, grapes,

bananas, strawberries, gooseberries, currants, etc.; jam, marmalade, preserved fruits; 'Kepler' Malt Extract and 'Kepler' Solution; hot or cold water; tea (always freshly-made, and never strong or taken with meat); coffee, thin cocoa; beer, waters such as Vichy, Vals, St. Galmier, Kissingen, Seltzer, Carlsbad, Marienbad, etc. (see 'Tabloid' Brand Effervescent Mineral Water Salts, page xl).

FORBIDDEN.—New bread and pastry; eggs, except in moderation and lightly cooked (the best form is "scrambled"); peas, broad beans, new potatoes; rice, tapioca, etc. (unless with fruit, jam or honey); nuts of all kinds, usually; milk, except in small quantities or mixed with Vichy or similar water; sherry.

GENERAL DIRECTIONS.—The patient should take a full quantity of fluid—for an adult at least 2-1/2 to 3 pints daily. This fluid may well include a tumblerful of cold water, or hot water, *immediately* on getting out of bed in the morning, and a tumblerful of hot water at bedtime. Where hot water, with or without a saline aperient, is ordered to be taken in the morning, the effect is often enhanced if the patient, while dressing, slowly sips the fluid.

No meat with tea; (patient to take fruit, jam, honey or treacle with farinaceous foods, e.g. blancmange or rice), and every night or early morning a full quantity of such fruit as stewed figs, baked apples, Normandy pippins, bananas, etc.

Diabetes

ALLOWED.—All clear soups and broths; fish of all kinds—except cod's liver—including shell-fish (with plain butter only, melted); meats of all kinds; Perfected Wyeth Beef Juice; eggs in all forms; cream, butter, cheese; gluten, bran, and almond breads and biscuits; greens, spinach, broccoli, turnip-tops, watercress, mushrooms, mustard and cress, cucumber, lettuce, tomatoes, celery (sparingly), endive; French beans, cauliflower and asparagus (the green part), all in great moderation; strawberries, gooseberries, raspberries, currants, peaches and nectarines, in very small quantity, and occasionally only; oranges and lemons; nuts of all kinds (except chestnuts); pickles, olives, vinegar, oil, jelly (sweetened, if preferred, with 'Saxin'); whipped cream, custards; koumiss, milk in great moderation; tea, coffee, cocoa nibs; 'Saxin' as a sweetening agent; claret, hock, dry Sauterne, Chablis, Burgundy, brandy and whisky; soda-

water, Apollinaris, Seltzer, Contrexéville, Vichy, Vals or St. Galmier waters (effervescent Seltzer or Vichy draughts can be most conveniently prepared by using 'Tabloid' Brand Effervescent Mineral Water Salts, see page xl). Alcohol, if ordered, should be limited in quantity.

FORBIDDEN.—Sugar and starch in any form; bread and biscuits (unless in small quantity when specially directed); rice, tapioca, sago, vermicelli, arrowroot, cornflour, oatmeal; potatoes, peas, broad beans, parsnips, beetroot, carrots, Spanish onions; pastry and puddings of all kinds; fruits of all kinds, fresh or preserved, except those named (in moderation only); milk, except in small quantity; ale, porter, stout, port, champagne, liqueurs, ginger-beer and cider. No flour should be used in the frying of food for diabetic patients.

Diarrhoea

ALLOWED.—Cold milk (boiled for preference), plain, treated with 'Tabloid' Sodium Citrate or peptonised, alone or with lime-water or barley-water; koumiss, whey, albumin water, rice-water; soups (without vegetables) thickened with arrowroot, rice, sago or tapioca, and with or without brandy in addition; raw meat, pounded meat, scraped meat, sweetbread, tripe; calf's-foot jelly; eggs, lightly boiled or poached, or beaten up with brandy; plain biscuits; rusks, gruels; brandy or port wine; whisky and water, or whisky and a natural mineral water such as Apollinaris or Seltzer.

FORBIDDEN.—Rich soups and meat essences; green vegetables, acid fruits, nuts, potatoes, brown bread, wholemeal bread, all hard foods or hard meats or rich, fat meats (especially veal and pork); beef-tea (a fruitful cause of the maintenance of diarrhoea), malt liquors and wines. Broadly, all foods should be avoided which leave a large or irritating residue in the bowel.

GENERAL DIRECTIONS.—The food should be given in small quantities, frequently; it is usually better given cold.

Dyspepsia

The conditions under which the digestion of food becomes inefficient or difficult are so many, and have such widely varying causes, that no general diet rules can be drawn up. Those foods which are usually found "digestible" and "indigestible" are indicated on page 157, but it is imperative that the opinion of a medical man be taken for each case.

ALLOWED.—Soups (clear, and in very small quantities only, if at all); Perfected Wyeth Beef Juice; fish, boiled (except mackerel, salmon, crab, lobster, anchovies and eel); chicken, fowl, pigeon, game (not "high"), lamb, mutton, beef (roasted); toasted or *well-boiled* ham and bacon (never fried); eggs poached or lightly boiled; tripe, sweetbread, cow-heel, calf's head; dry toast, carefully prepared or (better) plain rusks; stale bread; other farinaceous foods with caution and in moderation only; 'Kepler' Malt Extract; potatoes (with caution), spinach, green vegetables generally in small quantity only; celery, French beans, vegetable marrow; fruit (without pips, core or skin) in small quantity; milk, plain, treated with 'Tabloid' Sodium Citrate, peptonised, or diluted with Vichy, Vals or Seltzer; butter in moderation; koumiss, hot or cold water; tea (freshly-made, not strong); coffee, in moderate quantity and not strong; thin cocoa; stimulants, when considered necessary, should be expressly ordered for each case.

FORBIDDEN.—New bread, wholemeal bread (usually), muffins, crumpets, buttered toast, pastry and sweets generally; hard long-fibred meats, veal, pork and beef; sauces; curries; pickles and condiments; all fried or re-cooked meats; all salted, cured, tinned, preserved and highly-seasoned fish and meat; sausages, liver, kidneys, duck, goose and eels; green vegetables generally, save in small quantities for those whom they are known to suit; soups and broths, except in small quantity; foods generally which leave a large residue or which are in their nature irritating (discard seeds, kernels, rinds, skins and stalks); acid or unripe fruits; sour wines; tea with meat; usually coffee, chocolate, lemonade and ginger-beer. Tea should be avoided altogether, unless of moderate strength and freshly infused.

GENERAL DIRECTIONS.—All foods should be eaten slowly, and completely masticated.

Meals should be taken at regular hours (arranged for each case), and, when possible, in pleasant company, without haste, and under conditions free from hurry, worry or excitement. Each meal should be followed by a period of rest.

All food should be so cooked and served as to stimulate appetite and digestion.

Where tea, coffee, tobacco and stimulants are allowed, explicit instructions are usually given as to the kind and

quantity, and when and how they should be consumed. For example, freshly-made tea and mild tobacco may be good; whereas strong tea "overstewed" and strong tobacco would be bad.

Air, exercise and care as to the bowels are most necessary for patients suffering from dyspepsia.

Gout

ALLOWED.—All fresh vegetables freely (with exceptions named); fish (with exceptions named); eggs in moderation, lightly boiled or poached; meats (those of the lighter and whiter kinds) in great moderation; rice, sago and tapioca; fresh ripe fruits (with exceptions named); vegetable soups; toast or stale bread; potatoes, salads, celery and green vegetables (with exceptions named); milk (skimmed), diluted with Apollinaris, Vals, Vichy, or Seltzer water (see 'Tabloid' Brand Effervescent Mineral Water Salts, *page xl*); lime-juice, freely diluted; China tea (freshly infused and not strong); coffee, which should be taken only in moderation, and not at night; cocoa; tobacco in moderation.

In small quantities only.—Bread, plain biscuits, butter and cheese, potatoes, asparagus, tomatoes, haricot beans, broad beans, peas and lentils; eggs; whisky or brandy (not to exceed two ounces in the twelve hours); unsweetened gin, claret or hock, freely diluted.

FORBIDDEN.—Fats and rich foods, re-cooked foods, sauces, rich gravies and made dishes; the harder or richer meats, beef, pork or veal (as prepared in the British Isles); smoked, dried or pickled fish, pork, or other meat; pastry, jellies, sugar; meat essences and strong soups; rhubarb, gooseberries, currants; strawberries, except in moderation; oysters, mullet, mackerel, salmon, herring, eel, lobster, crab; duck, goose, hare, mushrooms, truffles, pickles and spices; preserved fruits; ale, porter, stout, port (usually), champagne (nearly always), Burgundy, sherry, Madeira and all liqueurs.

GENERAL DIRECTIONS.—Moderation is to be observed in animal food; liberality in vegetables. The proportion of these will be indicated by the medical man for each case.

Abundant fluid, of which plain hot water (for preference slowly sipped), night and morning, may form a large proportion.

Obesity

ALLOWED.—Clear soups in small quantity only; broths, not thickened nor containing such ingredients as rice or barley; fish and lean meat (with exceptions named); poultry, game, eggs; fruit; green vegetables; stale bread, toast, rusks and biscuits, in great moderation; or gluten and almond bread or biscuits; custard, junkets, butter; water (hot or cold); milk (skimmed), diluted with Vichy, Vals, Seltzer or other water (see 'Tabloid' Brand Effervescent Mineral Water Salts, page xl); tea or coffee, with 'Saxin' instead of sugar; natural mineral waters, claret, hock, Chablis, whisky or brandy, in moderation when expressly ordered.

FORBIDDEN.—Thick soups; eels, mackerel, salmon, herrings, sardines with oil; pork, duck, goose; rice, tapioca, macaroni, oatmeal, sago, arrowroot; potatoes, peas, broad beans, parsnips, carrots, beetroot; pastry and sweets; sugar, starchy cocoas; cream and milk (except in great moderation); ale, porter, stout, port, champagne and liqueurs.

Phthisis

The diet as to quantity and quality, and as to time, frequency and method of administration, must necessarily vary widely according to the stage of the disease and the condition of the appetite and of the digestion.

ALLOWED.—All soups, broths, meat essences and juices, Perfected Wyeth Beef Juice; eggs, perfectly raw; fish, poultry, game; meat, scraped, pounded or minced, when necessary; all vegetables in moderate quantities; all fruits; milk, koumiss, cream, tea, coffee, cocoa, chocolate; alkaline mineral waters (see page xl); beer, wine or spirit (as required for each case); 'Kepler' Malt Extract; 'Kepler' Solution.

FORBIDDEN.—Veal, pork, hard or salt meat, re-cooked foods and pickles.

GENERAL DIRECTIONS.—The method of feeding in phthisis is as important as the quantity and quality of the food. All food should be appetisingly cooked and daintily served, and its consumption encouraged unless there is temporary indication of digestive disturbance. The greatest variation possible, even in the matter of serving milk, should be introduced.

A. On waking, milk, hot or warm, gradually increasing in quantity till ten to twelve ounces are taken. It may

contain a little sodium phosphate to help the bowels, or sodium bicarbonate or sodium citrate to render it more easy of digestion.

- B. If preferred, there may be given, as a morning stimulant, a breakfastcupful of tea made with milk instead of water.
- C. Breakfast, one hour later, should be substantial, and is better taken in bed before washing and dressing.
- D. One hour and a half after breakfast (so as not to spoil the appetite for luncheon), one raw egg, or two if possible, broken into a glass and swallowed whole, with pepper and salt, or beaten up with a little milk; or raw meat, alone or in sandwich; or Perfected Wyeth Beef Juice.
- E. Mid-day, a substantial meal with (when indicated) beer, red wine or spirit.
- F. One hour and a half after luncheon, milk or raw eggs, or raw meat.
- G. In the afternoon, tea made with milk, or milk, with raw eggs, or raw meat, and abundant bread and butter.
- H. At 7 or 7.30, a substantial meal.
- I. At bedtime, milk, and, if possible, a raw egg in it, or with it.

NOTE.—The three substantial meals of the day may suitably be followed by a dose of 'Kepler' Solution proportionate to the age and condition of the patient.

Rheumatism (Acute)

ALLOWED.—I. During the stage of fever and joint inflammation: Fluids only, milk, treated with 'Tabloid' Sodium Citrate, diluted with soda-water or lime-water, or peptonised; Benger's Food, Plasmon, Somatose, fruit jellies, thin oatmeal gruel, barley-water, fresh lemonade, 'Kepler' Malt Extract; weak China tea. The patient may be allowed to partake freely of a drink prepared by mixing a pint of milk with a pint of boiled water, adding 30 to 40 grains of sodium bicarbonate and 10 to 20 grains of common salt, and cooling with a lump of ice.

II. After the febrile stage is over: Light clear soups and broths flavoured with fresh vegetables and herbs, with a little pounded chicken, light puddings and bread and milk.

III. Ten to fourteen days after the temperature is normal: Bread and butter, eggs, white fish, chicken, pounded

lean meat, mutton, veal; stewed celery, mashed potatoes, spinach, sea-kale, asparagus and pulp of fresh fruit.

FORBIDDEN IN ALL STAGES.—Beef-tea, meat extracts, pastry, sugar, sweets and alcohol. Occasionally a little red wine is allowed in convalescence.

Typhoid Fever

I. During the febrile stage: Fluids only, consisting chiefly of milk, of which at least three pints should be taken in the twenty-four hours. The feeds should be given every two hours, one or two feeds being omitted during the night if the patient be asleep. The milk may be peptonised, treated with 'Tabloid' Sodium Citrate, diluted with water, soda-water, lime-water, barley-water, or rice-water. Arrowroot, corn-flour or Benger's Food may be used to thicken it. Isinglass may be added so as to make a milk jelly. Tea, coffee, chocolate, vanilla, cinnamon, almond or lemon may be added as flavouring agents. When the milk is not digested, or tympanites is present, whey may be substituted.

To vary the milk feeds, meat juices may be given, such as Perfected Wyeth Beef Juice, beef-tea, chicken broth, strained mutton broth, clear soups, raw meat juice and calf's-foot jelly. Albumin water, made by beating up the whites of two eggs with half a pint of water, and adding sugar and lemon and ice, makes a pleasant and nutritious drink. Whisky or brandy may be given when necessary.

II. After the temperature has been normal for ten to fourteen days, solids may be gradually added, beginning with bread and milk, baked custard and thin bread and butter; and later, boiled sole, minced chicken or lamb, boiled chicken, roast chicken, roast lamb or chops.

All food given in typhoid fever should be so dilute as to remain liquid in the intestines. Milk may with advantage be diluted with twice the quantity of water. Pure water may be given without stint and with advantage.

The strictly fluid diet, mainly milk, hitherto usually ordered in typhoid fever, is now considered by many physicians unduly and unnecessarily restrictive. A more abundant diet (including bread, gruel, boiled eggs, milk, meat, chicken, soup, and milk pudding) is often permitted.

THE FEEDING OF INFANTS AND CHILDREN

If the mother be healthy, the infant's sole nourishment for the first seven or eight months of its life should be the mother's milk, which forms the only perfect food for the child at this time.

For the first six weeks of its life, the infant should receive nourishment every second hour from 5 a.m. till 11 p.m., and should be removed from the breast whenever it shows any inclination to stop sucking. During the second month, feeding every three hours is generally sufficient, and from this time, up till eight months, the intervals should be three to four hours. After the seventh or eighth month, other foods may be introduced at some of the feedings, and between the tenth and twelfth months the child should gradually be weaned.

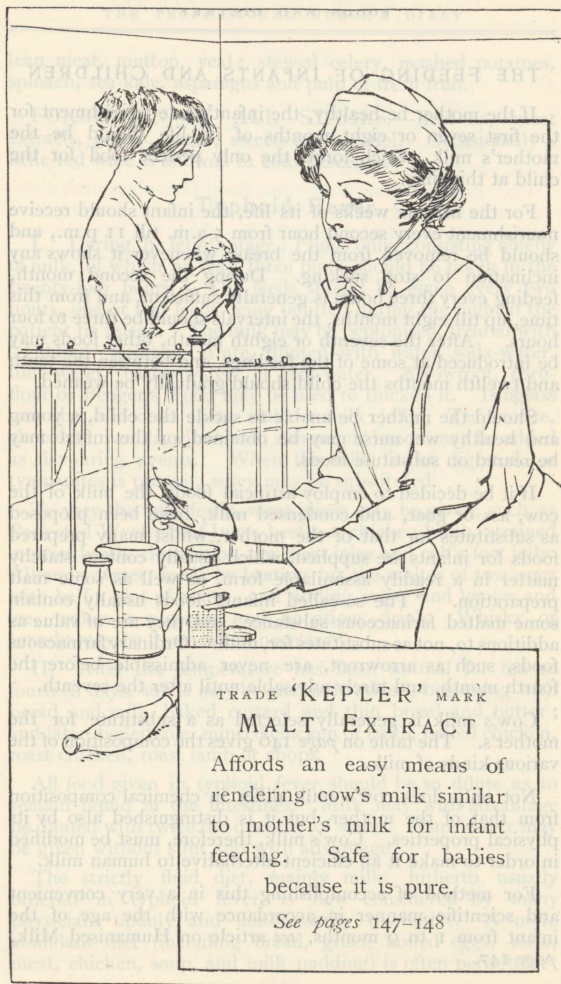
Should the mother be unable to suckle the child, a young and healthy wet-nurse may be obtained, or the infant may be reared on substitute foods.

If it be decided to employ artificial foods, the milk of the cow, ass or goat, and condensed milk, have been proposed as substitutes for that of the mother, whilst many prepared foods for infants are supplied, which usually contain starchy matter in a readily assimilable form, as well as some malt preparation. "The so-called infants' foods usually contain some malted farinaceous substance, and they are of value as additions to, not as substitutes for, milk." Ordinary farinaceous foods, such as arrowroot, are never admissible before the fourth month, and rarely advisable until after the seventh.

Cow's milk is generally selected as a substitute for the mother's. The table on page 146 gives the composition of the various kinds of milk.

Not only does cow's milk differ in chemical composition from that of the mother, but it is distinguished also by its physical properties. Cow's milk, therefore, must be modified in order to make it an efficient alternative to human milk.

For method of accomplishing this in a very convenient and scientific manner in accordance with the age of the infant from 1 to 9 months, see article on Humanised Milk, page 147.



THE FEEDING OF INFANTS AND CHILDREN

TRADE 'KEPLER' MARK
MALT EXTRACT

Affords an easy means of rendering cow's milk similar to mother's milk for infant feeding. Safe for babies because it is pure.

See pages 147-148

It is preferable to sterilise cow's milk used for infants. This is best done in a proper milk steriliser; failing which, heating the milk to the boiling point and then cooling rapidly is the method employed. The milk may also be Pasteurised. For method of Pasteurisation, see page 146. Some authorities state that cow's milk efficiently sterilised is best given undiluted, as hard curds are not formed in the stomach, and the infants gain weight more rapidly on undiluted than on diluted milk.

It is, however, the usual experience that cow's milk of good quality and containing all its cream is too rich for infants.

Previous to the introduction of the modern methods of humanising milk, it was a common custom among nurses to dilute cow's milk with water for infants' food. Some attempt was made to modify the diluted milk by the addition of sugar and cream. But the result was often very unsatisfactory owing to accidental variations in the quantities used, the absence of the diastasic digestive ferment and the addition of too much raw sugar. The great advantage of the 'Kepler' Malt Extract method already described (see article on Humanised Milk, page 147), consists in its accurate adaptation to the changing requirements of the child during the first nine months of life.

The maltose contained presents sugar in its most readily assimilable form and, in addition, 'Kepler' Malt Extract has nutritive and digestive principles of high value to the weak digestion of a babe. The marked improvement in weight and condition which follow upon the regular use of this method of feeding is a source of gratification to both mother and nurse.

Peptogenic Milk Powder is another preparation which may be employed to modify cow's milk, so that it conforms remarkably in every particular to normal mother's milk and affords a substitute for the latter during the entire nursing period. Recently, considerable attention has been directed to the treatment of cow's milk by the addition to it of sodium citrate. Undiluted cow's milk, to each ounce of which one to two grains of this salt have been added, is found to produce in the child's stomach a light flocculent,

finely-divided clot, which is easily digested. The method has given great satisfaction in cases where vomiting, diarrhoea, griping and emaciation followed the use of milk and other foods, whilst it is of valuable assistance during the process of weaning. The anti-scorbutic power of sodium citrate, its harmlessness to the child and its extreme solubility are additional arguments in favour of its use. 'Tabloid' Sodium Citrate, gr. 2, dissolved in a teaspoonful of water, is added to each ounce of milk. The simplicity of the method enables the nurse to carry out quickly and easily the treatment of the milk, and with the 'Tabloid' product she conveniently obtains the exact amount of the salt to be employed for each feed.

Between the ages of twelve and eighteen months, the child should have five meals in the day: at 6 a.m., milk and a plain biscuit; at 8 a.m., bread and milk, or porridge and milk; at noon, mashed potato and gravy or broth, milk pudding, egg custard, milk and barley-water; at 4 p.m., bread and butter, the yolk of a lightly-boiled egg or bread and milk; at bedtime, milk and a biscuit.

After eighteen months, in addition to the above diet, there may be added to the mid-day meal, under-cooked mince with finely-chopped greens, or plain boiled fish and potatoes. At tea-time, a little cocoa may be added. For note on "Infant Mortality," see page 163.



AIR-SPACE TABLE

Each individual requires 3000 cubic feet of fresh air per hour; hence, in

Workhouses: 300 cubic feet of air require to be changed ten times per hour (great draught).

Barracks: 600 cubic feet require to be changed five times per hour.

Hospitals: 1200 cubic feet to 1500 cubic feet require to be changed two to three times per hour.



URINE TESTING

THE nurse will often find it useful to have a knowledge of the more common tests used in urine analysis, and a short account of these is here given.

The 'Soloid' Brand Urine Test Case (No. 510), *Registered*, provides a compact and convenient means of making an examination of the urine.

1. *Quantity.* The total amount of urine passed in 24 hours should be collected and measured. This should be done carefully, and the amount unavoidably lost at stool should be taken into account. It is usual to enter up the quantity on the chart in such cases by the addition of a plus sign, thus 20 oz. + indicates that the total quantity is 20 oz. with the addition of a certain amount unavoidably lost.

The quantity passed by a healthy adult in 24 hours is about 50 fluid oz.

The amount may be increased in health by excessive ingestion of fluid. In cold weather, when there is little perspiration, the quantity of urine is greater than in warm weather.

2. *Colour.* Normal urine is the colour of amber or pale sherry. The colour is pale when the amount of urine is excessive, or in persons suffering from diabetes.

A greenish or greenish-black colour may be produced by the presence of bile.

Certain drugs, such as rhubarb, santonin or senna, produce a reddish or orange-brown tint.

The urine is high-coloured when the quantity passed is small, as in febrile conditions and copious diarrhoea.

3. *Consistence.* Normal urine is a thin watery fluid. The presence in it, of pus, causes it to be thick and viscid. After the urine has been standing a little time a cloud can be seen in it. This is due to the presence of mucus, which is practically a normal constituent of the urine.

Odour. The odour of the urine is characteristic, and is best described as "urinous."

Urine that has been standing for some time smells of ammonia, which is formed by the decomposition of urea. When there is cystitis or inflammation of the bladder the urine, at the time of passing, is often ammoniacal.

After taking turpentine the urine has the odour of violets. In certain cases of diabetes a peculiar fruity odour can be detected. The same odour may occur in the patient's breath. It is due to the presence of acetone.

Specific Gravity. This means the weight of the urine compared with that of an equal quantity of water. The latter is taken as 1000 and normal urine varies from 1015 to 1025. It is measured by means of the urinometer.

A very high specific gravity occurs in diabetes. A very low specific gravity occurs after drinking large quantities of fluid, in Bright's disease, hysteria and diabetes insipidus.

Reaction of Urine. Test by litmus paper. Normal urine is generally acid, and the blue litmus paper is turned red.

Urine may be alkaline—soon after meals and when it has stood for some time. In the latter case the alkalinity is due to the production of ammonia.

Abnormal Constituents

Albumin. The presence of albumin in urine is nearly always of serious significance.

The following is one of the best tests for detecting albumin in urine:—

First see that the urine is faintly acid, if necessary adding a few drops of dilute acetic acid, to make it so. Fill a test-tube half full of urine and boil the upper part of the column of fluid. If albumin be present a haze or cloud will appear, the density of which varies according to the amount of albumin present. If much albumin be present a white opaque cloud is formed. If only present in small quantity, a faint haze will be seen. Such cloud, or haze, may, however, be due not to albumin, but to phosphates. If this be so, it dissolves on the addition of a little nitric or acetic acid. The cloud due to albumin does not so dissolve.

Sugar. Fehling's test is used to detect the presence of sugar.

First boil the solution made with 'Soloid' Fehling's test, then add the urine drop by drop, and again heat. If sugar be present, a reddish-yellow precipitate is soon produced.

Blood. Urine containing blood appears red or smoky brown. Hæmaturia is the term applied to the presence in urine of blood as a whole; if blood pigment without corpuscles appear in the urine, the condition is known as hæmoglobinuria.

The presence of blood in the urine is detected by the Guaiacum test. For this test, tincture of guaiacum and ozonic ether are required. A few drops of tincture of guaiacum are added to the urine in a test-tube, and then ozonic ether is added without shaking the tube. If blood be present a blue colour is produced in the mixture.

Pus. Urine which contains pus rapidly decomposes and becomes ammoniacal.

To detect pus, add to the urine half its quantity of liquor potasse; a ropy gelatinous mass is produced.

AVERAGE WEIGHTS AND HEIGHTS

The following tables give the average weights and heights of males and females at different ages. It must be borne in mind that these averages are calculated from a number of tables of the weights and heights of a large number of persons, and, though accurate as a general guide, are not necessarily true for each person. Having regard to the widely varying range in the height and weight of healthy people, it is obvious that the individual may not conform to such average standard, and a deviation of 15 per cent. in either direction from such standard is not seriously regarded. Of more importance than the actual weight is the proportion between height and weight.

Great care should be taken that patients who are being weighed periodically should always be weighed on the same or reliable scales, and under precisely corresponding conditions (so far as possible) of clothing, food, etc., etc.

TABLE A.—Average weight of the healthy male child during the first year of life:—

	lb.	Kgm.		lb.	Kgm.
Weight at birth	6.8	3.08	Weight at seven months	13.4	6.08
" one month	7.4	3.36	" eight	14.4	6.53
" two months	8.4	3.81	" nine	15.8	7.17
" three	9.6	4.36	" ten	16.8	7.62
" four	10.8	4.90	" eleven	17.8	8.07
" five	11.8	5.35	" twelve	18.5	8.39
" six	12.4	5.63			

It should be noted that some slight loss of weight commonly occurs during the first few days after birth.

TABLE B.—Average height, without shoes, and average weight, with clothes, of all classes (town and country) of the general population of Great Britain. This table shows some facts uniformly observed, but not sufficiently borne in mind. (1) Growth is most rapid during the first five years of life, the rate of growth being about the same in both sexes, girls being a little shorter and lighter than boys. (2) From 5 to 10, boys grow more rapidly than girls. (3) From 10 to 15, girls grow more rapidly than boys. Between 11½ and 14½ they are actually taller, and from 12½ to 15½ actually heavier than boys. (4) From 15 to 20, boys begin again to increase more rapidly than girls, and complete their growth at about 23. (5) After 15, girls grow more slowly, and practically reach their full height and weight at 20. During childhood and adolescence, increase in weight is more marked in the winter, and increase in height in the summer.

MALES					FEMALES						
Age last birthday	Height		Weight		Age last birthday	Height		Weight			
	ft. in.	mm.	st. lb.	Kgm.		ft. in.	mm.	st. lb.	Kgm.		
1	2	5½	749	1 4½	8-39	1	2	3½	699	1 4	8-17
2	2	8½	826	2 4½	14-74	2	2	7	787	1 11½	11-45
3	2	11	880	2 6	15-42	3	2	10	864	2 3½	14-29
4	3	1	949	2 9	16-78	4	3	0	914	2 8	16-33
5	3	4	1016	2 12	18-14	5	3	3	990	2 11	17-69
6	3	7	1092	3 2½	20-19	6	3	6	1066	2 13½	18-94
7	3	10	1168	3 7	22-57	7	3	8	1117	3 5½	21-55
8	3	11	1194	3 13	24-95	8	3	10½	1180	3 10	23-59
9	4	1	1264	4 4	27-44	9	4	0½	1238	3 13½	25-18
10	4	3	1314	4 11½	30-62	10	4	3	1295	4 6	28-12
11	4	5	1359	5 2	32-66	11	4	5	1346	4 12	30-85
12	4	7	1397	5 6	34-81	12	4	7½	1410	5 6½	34-70
13	4	9	1448	5 12½	37-42	13	4	9½	1467	6 3	39-46
14	4	11½	1505	6 8	41-73	14	4	11½	1518	6 12½	43-89
15	5	2½	1581	7 4½	46-61	15	5	1	1549	7 8½	48-20
16	5	4½	1632	8 7	53-98	16	5	1½	1568	8 1	51-26
17	5	6½	1683	9 5	59-42	17	5	2½	1588	8 3½	52-39
18	5	7	1702	9 11½	62-37	18	5	2½	1588	8 9	54-89
19	5	7½	1708	9 13½	63-28	19	5	2½	1594	8 12	56-25
20	5	7½	1715	10 3½	64-98	20	5	3	1600	8 11½	56-02
21	5	7½	1715	10 5	65-77	21	5	3	1600	8 10	55-34
22	5	7½	1715	10 7	66-68	22	5	3	1600	8 11½	56-02
23	5	7½	1715	10 8	66-91	23	5	3	1600	8 12	56-25
24	5	7½	1721	10 8	67-13	24	5	2½	1594	8 9	54-89
25						25					
26						26					
27						27					
28						28					
29						29					
30	5	7½	1721	10 12½	69-06	30	5	2	1575	8 8	54-43
31						31					
32						32					
33						33					
34	5	8	1727	11 6	72-58	34	5	1	1548	8 9	54-89
35						35					

TABLE C.—Average weight for height, with average chest measurement, of a man, dressed, aged 30:—

Height		Weight		Chest Circumference		Height		Weight		Chest Circumference	
ft. in.	mm.	st. lb.	Kgm.	in.	mm.	ft. in.	mm.	st. lb.	Kgm.	in.	mm.
5 0	1524	8 0	50-80	33½	85½	5 7	1702	10 8	67-13	38	965
5 1	1549	8 4	52-62	34	864	5 8	1727	11 1	70-31	38½	978
5 2	1575	9 0	57-15	35	889	5 9	1753	11 8	73-48	39	991
5 3	1600	9 7	60-33	35	889	5 10	1778	12 1	76-66	39½	1003
5 4	1626	9 13	63-05	36	914	5 11	1803	12 6	78-93	40	1016
5 5	1651	10 2	64-41	37	940	6 0	1829	12 10	80-74	40½	1029
5 6	1676	10 5	65-77	37½	953	6 1	1854	13 0	82-56	41	1041

The average weight of the clothing is $\frac{3}{4}$ th of the male body.

TABLE D.—Average weight for height of a woman, dressed, measuring:—

Height		Weight		Height		Weight		Height		Weight	
ft. in.	mm.	st. lb.	Kgm.	ft. in.	mm.	st. lb.	Kgm.	ft. in.	mm.	st. lb.	Kgm.
4 10	1473	7 0	44-45	5 2	1575	8 2	51-71	5 6	1676	9 13	63-05
4 11	1499	7 4	46-27	5 3	1600	8 9	54-89	5 7	1702	10 8	67-13
5 0	1524	7 7	47-63	5 4	1626	9 2	58-06	5 8	1727	11 4	71-67
5 1	1549	7 12	49-90	5 5	1651	9 9	61-24				

The average weight of the clothing is $\frac{1}{10}$ th of the female body.

TABLE OF INCOME

Per Year	Per Month	Per Week	Per Day	Per Year	Per Month	Per Week	Per Day
£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
0 10 0	0 10 0	0 2½	0 0½	14 0	1 3 4	0 5 4½	0 0 9½
1 0 0	1 0 0	0 4½	0 0½	14 14	1 4 6	0 5 7½	0 0 9½
2 0 0	2 0 0	0 9	0 1½	15 0	1 5 0	0 5 9½	0 0 9½
3 0 0	3 0 0	1 1½	0 2	15 15	1 6 3	0 6 0½	0 0 10½
4 0 0	4 0 0	1 6½	0 2½	20 0	1 13 4	0 7 8½	0 1 13½
5 0 0	5 0 0	2 11	0 3½	30 0	2 10 0	0 11 6½	0 1 7½
6 0 0	6 0 0	2 3½	0 4	40 0	3 6 8	0 15 4½	0 2 2½
7 0 0	7 0 0	2 8½	0 4½	50 0	4 3 4	0 19 2½	0 2 9
8 0 0	8 0 0	3 1	0 5½	60 0	5 0 0	1 3 1	0 3 3½
9 0 0	9 0 0	3 5½	0 6	70 0	5 16 8	1 6 11	0 3 10
10 0 0	10 0 0	3 10½	0 6½	80 0	6 13 4	1 10 9½	0 4 4½
10 10 0	10 17 6	4 0	0 7	90 0	7 10 0	1 14 7½	0 4 11½
11 0 0	11 4	4 2½	0 7½	100 0	8 6 8	1 18 5½	0 5 5½
11 10 0	11 19 3	4 5½	0 7½	200 0	16 13 4	3 16 11	10 10 11½
12 0 0	12 0	4 7½	0 8	300 0	25 0 0	5 15 4½	16 5½
12 10 0	12 10 0	4 10½	0 8½	400 0	33 6 8	7 13 10½	21 11
13 0 0	13 0	5 0	0 8½	500 0	41 13 4	9 12 3½	27 7 4½
13 13	13 2 9	5 3	0 9				

WEIGHTS AND MEASURES

Apothecaries' Weight

20 grains	1 scruple (℥i)
3 scruples.....	1 drachm (ʒi)=60 grains
8 drachms	1 ounce (℥i)=480 grains
12 ounces	1 pound = 5760 grains

NOTE.—The ounce and pound are respectively identical in the Apothecaries' and Troy scales, but they differ from those of the Avoirdupois standard.

Avoirdupois Weight

(Adopted by the British Pharmacopoeia)

437.5 grains	1 ounce
16 ounces	1 lb. = 7000 grains

Imperial Measure

(Adopted by the British Pharmacopoeia)

60 minims.....	1 fluid drachm
8 fluid drachms.....	1 fluid ounce
20 fluid ounces	1 pint
8 pints.....	1 gallon

A domestic teaspoon is reputed to hold about one fluid drachm; a dessertspoon between two and three fluid drachms; a tablespoon about half an ounce; a wineglass about two ounces. No reliance can be placed upon such measures, which are never scientifically accurate. Teaspoons sometimes hold as much as three fluid drachms and sometimes as little as one, and, like drops and other indefinite quantities, should be avoided when possible. When accurate and uniform dosage is required, 'Tabloid' products should always be employed.



Metric Weights and Measures

Those more generally employed are:—

1 gramme.....	15.432 grains
1 kilogramme (kilo)	2 lb., 34 ounces, avoirdupois
1 cubic centimetre (c.c.) ...	16.9 minims
1 litre	1 pint, 15 ounces 1 dr., 34 minims
1 metre.....	39.37 inches

For all practical purposes, the litre may be taken as equivalent to 1000 cubic centimetres.

UTERO-GESTATION

There are wide differences in the figures given by various authorities on the points dealt with in this section. Those given below are believed to be in accord with present English teaching.

FŒTUS

Length and weight at different stages of intra-uterine life

Days	Weeks	Length	Weight
28	4	4 to 6 lines	gr. 20
56	8	15 to 18 "	dr. 2 to 5
84	12	2 to 3 inches	1 to 2 oz.
112	16	3 to 6 "	2 to 3 oz.
140	20	6 to 8 "	5 to 7 oz.
168	24	8 to 10 "	1 lb.
196	28	10 to 13 "	2 to 3 lb.
224	32	13 to 15 1/2 "	3 to 5 lb.
252	36	15 1/2 to 18 "	} 6 to 9 lb. or more
280	40	18 to 20 1/2 "	
287	41	20 1/2 to 24 "	

It has been calculated that the length of the foetus for the first six months of intra-uterine life is indicated in centimetres by the square of the number of the corresponding month. Thus, at one month, a foetus measures 1 centimetre; at 2 months, 4 centimetres; at 3 months, 9 centimetres; at 4 months, 16 centimetres. The variation in the length and weight of children at birth is very great. The average weight at birth is stated to be 6.8 lb., but English experience would place it somewhat higher—possibly 7 1/2 lb. for a full-term infant.

FŒTAL HEART SOUNDS

The sounds of the foetal heart, 130 to 150 per minute, are best heard at the end of the fourth or beginning of the fifth month, at a point midway between the umbilicus and the left (or less frequently, the right) anterior superior spine of the ilium.

FŒTAL HEAD

Measurements at full term

1. SAGITTAL DIAMETERS—

- (a) The direct, or fronto-occipital (from the glabella to the most prominent point of the occiput), 4.5 inches, with a circumference of 13.5 inches.
- (b) The great diagonal, or mento-occipital (from a point of the chin to the most prominent point of the occiput), 5.25 inches, with a circumference of 14.25 inches.
- (c) The small diagonal, or sub-occipito bregmatic (from a point midway between the occipital tubercles and the foramen magnum to the posterior edge of the great fontanelle), 3.75 inches, with a circumference of 11.5 inches.

2. TRANSVERSE DIAMETERS—

- (a) The great transverse, or bi-parietal, between the most prominent points of the two parietal eminences, 3.75 inches.
- (b) The small transverse, or bi-temporal, 3 inches.

3. VERTICAL DIAMETERS—

- (a) From the vertex to the base of the skull—i. e. to the anterior edge of the foramen magnum, 3.75 inches.
- From the most projecting part of the forehead to the chin—i. e. the length of the face, 3 inches.

FEMALE PELVIS

Measurements

	Inlet	Cavity	Outlet
Antero-posterior (<i>true conjugate</i>)	4½ in.	4½ in.	5 in.
Oblique	4½ in.	4½ in.	4½ in.
Transverse	5 in.	4½ in.	4 in.

The external conjugate, usually known as D.B., the diameter of Baudelocque, measured from the first spine of the sacrum to the mons veneris, is 7½ to 8 inches.

The "measurement of the spine" between the external margins of the anterior superior spinous processes of the ilia, is usually about 10 inches.

The measurement between the most distant parts of the crests of the ilia is usually about 11 inches.

The diagonal conjugate, measured from the promontory of the sacrum to the under surface of the symphysis pubis, is about 4½ inches.

GRAVID UTERUS

Position of fundus at the different stages of pregnancy

End of 2nd month	1½ in. above symphysis pubis
" 3rd "	midway between symphysis and umbilicus
" 4th "	⅔ of distance between symphysis and umbilicus
" 5th "	level with umbilicus
" 6th "	1 in. to 1½ in. above umbilicus
" 7th "	2½ in. to 3 in. above umbilicus
" 8th "	⅔ of distance between umbilicus and ensiform cartilage

Thence it continues to rise slightly towards the ensiform cartilage until the last week of pregnancy, when it begins to sink again, in consequence, chiefly, of the foetus descending more into the pelvis.

GRAVID UTERUS

Measurements at different stages of pregnancy

At end of	Length	Width	Depth
3rd month	4½ to 5 inches	4 inches	3 inches
" 4th "	5½ to 6 "	5 "	4 "
" 5th "	6 to 7 "	5½ "	5 "
" 6th "	8 to 9 "	6½ "	6 "
" 7th "	10 to 11 "	7½ "	6½ "
" 8th "	11 to 12 "	8 "	7 "
" 9th "	12 to 14 "	9½ "	8 to 9 in.

NON-GRAVID UTERUS

Measurements in Nulliparae

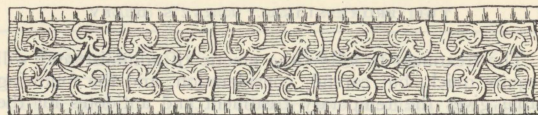
Length from fundus to anterior lip	3½ in.
Width at fundus	1½ in. to 2 in.
Depth immediately below fundus	½ in. to 1½ in.

The cervix is 1½ in. to 1½ in. long, 1 in. wide and 1 in. to 1½ in. deep.

The anterior lip projects 0.2 in. to 0.3 in. beyond the os, while the posterior measures from the fornix to its free edge 0.7 in.

The walls are 0.4 in. to 0.6 in. thick in virgins, and 0.8 in. in women who have borne children.

The weight in virgins is 1.1 oz. to 1.3 oz.; and in women who have borne children, 3.3 oz. to 4 oz.



POISONS AND THEIR ANTIDOTES

THE treatment of cases of poisoning requires great care and judgment, and calls for the exercise of the utmost discretion. **The first thing to be done, in a case of suspected poisoning, is to send for a medical man.** If a medical man be not available, the assistance of the nearest chemist should be sought.

Next consider whether an emetic should be given. In the majority of cases this is the correct course to follow. *When the poison is an acid or other corrosive agent*, however, its action on the membrane of the stomach and the oesophagus may have been such as to render the use of an emetic highly dangerous, from the liability to perforation. The proper course then is to neutralise the acid or corrosive agent according to the directions in the following table, instead of attempting its removal.

Emetics.—If it be decided to administer an emetic, one or other of the following will be found most useful:—

- Mustard and Water.**—A tablespoonful of mustard mixed in a tumblerful of tepid water. The water should be added to the mustard with constant stirring, and the patient compelled to take two or three such draughts until the desired effect be produced.
- Common Salt.**—Mix two tablespoonfuls in a tumblerful of tepid water.
- Ipecacuanha.**—Give a large tablespoonful of ipecacuanha wine in half a tumblerful of warm water, or give 15 to 30 grains of powdered ipecacuanha mixed with half a tumblerful of warm water. This generally acts promptly, but is liable to increase the depression caused by most poisons.
- Sulphate of Zinc.**—From 15 to 30 grains of sulphate of zinc dissolved in half a tumblerful of warm water will be found very effective. Sulphate of zinc does not produce marked after-depression.

If none of the foregoing emetics be available, copious draughts of warm water, and tickling the back of the throat, should be tried. If the patient be a child, holding the nose will greatly help the swallowing process.

The use of the stomach-tube, or of kindred appliances, should be left to the medical man.

The treatment to follow the emetic (if administered) will require quick, but careful, consideration, and the following table gives the temporary treatment and antidotes for the more common poisons. The antidotes here given are those which are thought to be more generally available, and which may be used pending the arrival of expert assistance.

It is of great importance to ascertain approximately the amount of poison taken, as the quantity of antidote to be administered necessarily varies proportionately. A case has been reported of a patient who had taken a small quantity of poison being nearly killed by the ill-judged amount of antidote administered.

Poisons	Antidotes
ACIDS—	<i>Do not use emetic or stomach-tube.</i>
Hydrochloric Acid (<i>Spirit of Salt</i>)	1. Whiting, Whitewash, Chalk, Wall Plaster or Magnesium Carbonate, mixed with a little water; or washing soda, Sodium Bicarbonate, or Potassium Bicarbonate dissolved in plenty of water. Soap and water in large draughts.
Nitric Acid	2. Repeated drinks of one of the following :— (a) Milk and Egg, (b) Olive Oil, $\frac{1}{4}$ pint, in a pint of water, or (c) Thick Gruel.
Sulphuric Acid (<i>Oil of Vitriol</i>)	3. To sustain patient, Predigested Meat or Milk 'Enule' Brand Rectal Suppositories.
	<i>Do not use emetic or stomach-tube.</i>
Oxalic Acid	1. Chalk, Whiting, Wall Plaster or Whitewash, in a little water, or Lime Water, freely. A full dose of Castor Oil should be given afterwards.
Salt of Sorrel	2. Give milk freely.
Salt of Lemons	3. To sustain patient, Predigested Meat or Milk 'Enule' Brand Rectal Suppositories; or, if there be much depression, diluted Brandy <i>per rectum</i> .
Acetic Acid	<i>Do not give an emetic.</i>
	Give, as temporary measures until the arrival of the medical man :—
Carbolic Acid	1. Olive Oil or Milk, or White of Egg in water, freely. <i>Keep patient warm.</i>
	2. Magnesium Sulphate (Epsom Salt), or Glauber's Salt $\frac{1}{2}$ ounce in $\frac{1}{2}$ pint of warm water, repeated, or Lime Water freely.

Poisons	Antidotes
Carbolic Acid (<i>continued</i>)—	3. If necessary give Stimulants, and employ Artificial Respiration (15 to minute).
Hydrocyanic Acid (<i>Prussic Acid</i>)	1. Place patient in open air.
Cyanides	2. Administer an emetic.
	3. Cold douche (from height) to head and spine, or dash cold water on continuously.
	4. Artificial Respiration (15 to minute); Ammonia inhalation by the nostrils.
	5. Dissolve about gr. 15 of Iron Sulphate and about min. 20 of Tincture (or Solution) of Iron Perchloride (or 2 'Tabloid' Ferric Chloride) in a wineglassful of water, then add 1 to 2 drachms of Magnesia previously made into a thin cream with water. Mix and administer. Repeat if necessary.
	6. Stimulants internally.
ALKALIES—	<i>Do not use emetic or stomach-tube.</i>
Caustic Potash	1. Vinegar, freely diluted with water; Lemon Juice in water; Citric or Tartaric Acid ($\frac{1}{2}$ drachm in $\frac{1}{2}$ pint of water), repeated.
Caustic Soda	2. Afterwards give milk very freely; or Olive Oil ($\frac{1}{4}$ pint in one pint of milk or water); or White of Egg. Repeat.
Soap Lees	3. Stimulants internally.
Lime	
Strong Ammonia	
METALLIC—	
POISONS—	1. Emetic (if vomiting have already occurred, encourage it by giving draughts of tepid water).
Antimony Compounds	2. Tannic Acid, gr. 30, in warm water, or very strong Tea or Coffee. Repeat as often as vomited.
Tartar Emetic	3. When vomiting subsides, give (a) White of Egg in water, or (b) Milk freely.
Butter of Antimony	4. Stimulants. Hot water bottles to extremities.
	1. Emetic. Complete emptying of the stomach is important.
Arsenic and its preparations	2. Dialysed Iron (Wyeth), one tablespoonful followed by a little Common Salt in a tablespoonful of water; repeat frequently until ten doses have been taken. Or Ferric Hydrate, prepared as follows: Dilute Solution (or Tincture) of Iron Perchloride oz. 12 with a wineglassful of water (or dissolve 18 products of 'Soloid' Ferric Chloride in a wineglassful of water) and add to a solution of oz. $\frac{1}{2}$ of Sodium Carbonate (Washing Soda) in about half a tumblerful
Fowler's solution, etc.	

Poisons	Antidotes
Arsenic and its preparations (continued)—	of water. Mix and administer. (These quantities are stated to render insoluble at least gr. 5 of arsenic.) If neither of the foregoing be available, give large quantities of Calined Magnesia mixed with water to form a thin paste.
	3. Milk and Eggs, beaten up, or Olive Oil ($\frac{1}{4}$ pint in one pint of water).
	4. Iced Barley Water for thirst.
	5. Stimulants. Hot water bottles to extremities.
Mercury and its preparations	1. Eggs mixed with Milk or Water, in unlimited quantities; or Flour and Water.
Corrosive Sublimite	2. Emetic.
Red or White Precipitate	3. In continued absence of medical aid, wash out stomach with water having White of Egg dissolved in it.
Phosphorus	1. Copper Sulphate, gr. 3 (3 'Soloid' Copper Sulphate, gr. 1), dissolved in water, every five minutes until vomiting is induced, then every fifteen to thirty minutes. Or Zinc Sulphate, gr. 20 (2 'Soloid' Zinc Sulphate, gr. 10), dissolved in oz. 4 of water, may be given as an emetic. After free vomiting :—
Rat Paste	2. Old or French Oil of Turpentine, 40 drops in one ounce of water every $\frac{1}{2}$ hour for one hour, then three times a day. <i>Avoid American or German Turpentine.</i>
Matches	3. Magnesium Sulphate (Epsom Salt), $\frac{1}{2}$ to 1 ounce in a tumblerful of water.
	4. Milk and Eggs. <i>Avoid ordinary fats and oils.</i>

NON-METALLIC
POISONS—

Aconite (Monkshood)	1. Emetic.
Aconitine	2. Sal Volatile or Brandy. Lay the patient flat.
	3. Warmth, Artificial Respiration (not to exceed 15 times to minute), and Friction.
Belladonna (Deadly Nightshade)	1. Emetic.
Atropine	2. Charcoal, Brandy, Hot Coffee.
	3. Artificial Respiration (15 to minute), and Warmth.
Nicotine (Tobacco, weed killer)	1. Stomach pump or emetic.
	2. Stimulants, external Warmth.
	3. Artificial Respiration.
Opium	1. Emetic.
Morphine	2. Hot Coffee.
Chlorodyne	3. 'Soloid' Potassium Permanganate, two of gr. 5 strength, dissolved in four ounces of water.
Paregoric	4. Cold water to face; rouse patient by forced exertion and by flipping with a towel.
Laudanum	5. Artificial Respiration (15 to minute), and Warmth.

Poisons	Antidotes
Strychnine	1. Emetic.
Nux Vomica	2. Tannin, gr. 20 to gr. 40 [8 to 16 'Tabloid' Tannin, gr. 28], in a wineglassful of water, followed by another Emetic.
Vermin Killer	3. 'Tabloid' Potassium Bromide, six of gr. 5 strength, and 'Tabloid' Chloral Hydrate, three of gr. 5 strength, dissolved together in half a tumblerful of water, and repeated if necessary. Chloroform may be required, and in serious cases its administration is the first step in treatment.
	4. Quiet, but, in case of collapse, Artificial Respiration [15 to minute].
Turpentine	1. Emetic.
	2. Magnesium Sulphate (Epsom Salt), 1 oz. in half a tumblerful of water.
	3. Draughts of White of Egg and Milk.

THERMOMETRIC EQUIVALENTS

Fahrenheit, Centigrade and Réaumur

To convert degrees F. into degrees C., deduct 32, multiply by 5 and divide by 9; to convert degrees C. into degrees F., multiply by 9, divide by 5 and add 32; to convert degrees F. into degrees R., deduct 32, multiply by 4 and divide by 9; to convert degrees R. into degrees F., multiply by 9, divide by 4 and add 32.

F.	C.	R.	F.	C.	R.
212	100	80	88	31.1	24.9
200	93.3	74.7	86	30	24
150	65.6	52.4	84	28.9	23.1
112	44.4	35.5	82	27.8	22.2
110	43.3	34.7	80	26.7	21.3
108	42.2	33.8	78	25.6	20.4
106	41.1	32.9	76	24.4	19.6
105	40.6	32.4	74	23.3	18.7
104	40	32	72	22.2	17.8
103	39.4	31.6	70	21.1	16.9
102	38.9	31.1	68	20	16
101	38.3	30.7	66	18.9	15.1
100	37.8	30.2	64	17.8	14.2
99	37.2	29.8	62	16.7	13.3
98.4	{ Body Tem- perature }	36.9	60	15.6	12.4
98		36.7	58	14.4	11.6
96		35.6	56	13.3	10.7
94		34.4	54	12.2	9.8
92		33.3	52	11.1	8.9
90		32.2	50	10	8
			48	9	7.1
			46	8	6.2
			44	7	5.3
			42	6	4.4
			40	5	3.5
			38	4	2.6
			36	3	1.7
			34	2	0.8
			32	1	-0.1
			30	0	-1
			28	-1	-2.1
			26	-2	-3.1
			24	-3	-4.1
			22	-4	-5.1
			20	-5	-6.1
			18	-6	-7.1
			16	-7	-8.1
			14	-8	-9.1
			12	-9	-10.1
			10	-10	-11.1
			8	-11	-12.1
			6	-12	-13.1
			4	-13	-14.1
			2	-14	-15.1
			0	-15	-16.1
			-2	-16	-17.1
			-4	-17	-18.1
			-6	-18	-19.1
			-8	-19	-20.1
			-10	-20	-21.1
			-12	-21	-22.1
			-14	-22	-23.1
			-16	-23	-24.1
			-18	-24	-25.1
			-20	-25	-26.1
			-22	-26	-27.1
			-24	-27	-28.1
			-26	-28	-29.1
			-28	-29	-30.1
			-30	-30	-31.1
			-32	-31	-32.1
			-34	-32	-33.1
			-36	-33	-34.1
			-38	-34	-35.1
			-40	-35	-36.1
			-42	-36	-37.1
			-44	-37	-38.1
			-46	-38	-39.1
			-48	-39	-40.1
			-50	-40	-41.1
			-52	-41	-42.1
			-54	-42	-43.1
			-56	-43	-44.1
			-58	-44	-45.1
			-60	-45	-46.1
			-62	-46	-47.1
			-64	-47	-48.1
			-66	-48	-49.1
			-68	-49	-50.1
			-70	-50	-51.1
			-72	-51	-52.1
			-74	-52	-53.1
			-76	-53	-54.1
			-78	-54	-55.1
			-80	-55	-56.1
			-82	-56	-57.1
			-84	-57	-58.1
			-86	-58	-59.1
			-88	-59	-60.1
			-90	-60	-61.1
			-92	-61	-62.1
			-94	-62	-63.1
			-96	-63	-64.1
			-98	-64	-65.1
			-100	-65	-66.1

DENTITION TABLE

The following tables show the order in which the milk teeth and the permanent teeth appear, and the average age at their eruption. There are, of course, wide limits as to time, and, though less often, regularity in the order of their appearance :—

Milk Teeth.—The first dentition begins at the sixth or seventh month, and is completed by about the second year.

Central incisors	(1) lower, 6th month ; (2) upper, 7th month
Lateral incisors	(1) upper, 9th month ; (2) lower, 10th month
First molars	12th month
Canines	18th month
Second molars	2nd year

The full primary dentition is 20 teeth : 10 in each jaw.

Permanent Teeth.—

First molars.....	6½ years	Second bicuspid.....	11 years
Lower central incisors, 7	„	Canines.....	12 „
Upper „ „ 8	„	Second molars.....	13 „
Lateral incisors „ 9	„	Third molars (wisdom) 17 to 25	years, or even later
First bicuspid „ 10	„		

The full permanent dentition is 32 teeth : 16 in each jaw.



THE PULSE RATE

In health the pulse rate varies widely according to a number of conditions, such as age, sex, temperament, exercise, excitement, food and temperature. The relation of the respiration rate to the pulse rate may be expressed broadly as about 1 to 4. The following table represents a fair average pulse rate at different ages :—

Fœtus ..	...	...	150 to 130 per minute
New-born infant ..	...	...	140 „ 130 „
Under 1 year ..	...	...	130 „ 115 „
1 to 2 years ..	...	...	115 „ 100 „
2 to 7 years ..	...	...	100 „ 90 „
7 to 14 years ..	...	...	90 „ 75 „
14 to 21 years ..	...	...	85 „ 75 „
21 to 65 years ..	...	...	75 „ 65 „
In old age ...	...	...	85 „ 70 „



LEGAL INFORMATION

Infectious Diseases.—A private or district nurse is commonly expected to possess information which she has had neither the need nor the opportunity for acquiring during her hospital career. For instance, with regard to infectious cases, her experience is often very limited. When a patient in a general ward is found to be suffering from one of the infectious fevers, the physician orders his immediate removal, and the proper officials carry the matter through. The nurse has no responsibility beyond seeing that bedstead, floor and locker are properly disinfected, and the bedding and linen sent, with due precautions, to be “stoved.” She cannot follow her patient through the formalities of transport, examination and admittance.

But in a district or private practice, a nurse has no staff of officers to rely upon, and she should make herself acquainted with the laws framed from time to time for the protection of public health, and thus be prepared to understand orders, as well as to follow out the details.

In the United Kingdom, it is compulsory that the infectious diseases specified on *page 192* be immediately reported to the medical officer of health for the district :—

- (1) By the head of the household or his representative, or by the person in charge of, or in attendance on, the patient ; and
- (2) By the doctor who has seen the patient.

A certificate signed by a qualified medical practitioner can procure the removal to a fever hospital or to the isolation ward of a general hospital, of a person suffering from an infectious disease if he has no proper lodging. The expense of the transport is borne by the local authority, which can also make compensation for clothing or bedding injured unnecessarily by disinfection, or destroyed by order of the authority.

If the friends of a patient refuse to permit a removal which is considered by the medical officer of health to be necessary

for the protection of the public, an order for compulsory removal can be obtained from a magistrate; but should the entrance of officers to carry out the order be resisted, they are instructed not to use force, but to content themselves with taking out a summons. Nurses can often induce those with whom they are brought into contact to take due sanitary precautions by explaining the need for them, and also that certain laws exist to enforce them. Amongst the poor, it is frequently the district nurse who first discovers, or is told casually, that some of her neighbours are attacked by an infectious disease. Probably no doctor has been called, and the parents are reticent lest their employers, as well as the school authorities, may insist on inconvenient isolation. However much the nurse may sympathise with the poor people, to whom temporary suspension from work is a serious matter, her own duty is plain. She must place the facts before the medical officer of health, and leave the matter to him.

Notifiable Diseases.—The infectious diseases notifiable are small-pox, cholera, diphtheria, membranous croup, erysipelas (traumatic or idiopathic), scarlatina, scarlet fever, typhus, typhoid (enteric), relapsing, continued or puerperal fevers. We may here mention that the Local Government Board order of September 19, 1900, in relation to the notification of cases of plague, has not been withdrawn. Consumption (pulmonary tuberculosis) must also be notified, under the Public Health (Tuberculosis) Regulations, 1911, but the penalties and provisions of the Infectious Disease (Notification) Act, 1889, do not apply, and the notification is only to be given by medical practitioners.

According to the opinion of a well-known physician, "any continued fever occurring in a lying-in woman, attributable to absorption of septic matter from some part of the genital tract, should be considered as coming within the definition" of puerperal fever. Under special conditions the local authorities have the power of adding to the above list of notifiable diseases—measles, mumps, whooping cough, chicken-pox, cerebro-spinal meningitis (spotted fever), acute poliomyelitis, etc.

It is important to remember that the law applies to every place in which people live if within the area of its jurisdiction; therefore no immunity from notification may be

claimed on behalf of those living in ships, boats, sheds, vans or tents. It is well, also, to note that the exposure of infected persons in public places is illegal; and in districts where the Public Health Act of 1907 has been adopted, it is illegal for any person suffering from an infectious disease to engage in any occupation, trade, or business, unless he can do so without risk of spreading the disease. Not only is the person suffering from a dangerous (*i.e.* notifiable) disease subject to a penalty, but those in charge of him may also be fined if they permit him to enter shops, inns, public conveyances, or any place of public resort.

Disinfection of Houses.—The disinfection of houses may be undertaken by the occupiers, provided they satisfy the medical officer of health as to the completeness of the process, and also carry it out within the prescribed limit of time. It is usual in many districts for the actual disinfection to be performed by the local sanitary authority, and the subsequent cleansing by the householder. Anyone who vacates a house wherein a case of infectious disease has occurred within six weeks, without duly disinfecting it, or informing the landlord of the recent illness, is liable to a heavy penalty. It is unlawful for dust or rubbish from an infected room to be thrown into a dustbin without previous disinfection. If a request be made by the occupier, the sanitary officer provides for its removal and destruction. *Free disinfection* is provided, at disinfection stations in London and most large towns, for articles which have been in contact with both notifiable and unnotifiable infectious diseases.

Disinfection of the Person should, of course, in all cases be very carefully observed before leaving the house of a patient suffering from an infectious disease, and proceeding either to another patient, or to mingle with the public. Failure to observe proper and reasonable precautions is a serious act of negligence, and any person who could prove that infection had been carried to him or his family, could bring an action for damages, and the person so acting carelessly and with disregard to other persons' safety, would have to pay not only the damages, but also the costs. If the person infected by reason of such negligence died, and the negligence were of a reckless character, the person carrying the infection might possibly be indicted for manslaughter. It is incumbent upon all persons, but especially upon nurses who

come in contact with patients suffering from infectious diseases, and particularly puerperal fever, to take the greatest possible pains to avoid conveying the disease to other persons.

Infected Clothes not to be sent to Laundry.

—It is an offence for any person to send to any public wash-house or laundry for the purpose of being washed, any bedding, clothes or other things which are known to have been exposed to infection from any infectious disease, unless they have been disinfected to the satisfaction of the local authority or a qualified medical practitioner, or are sent with proper precaution to the laundry for the purpose of disinfection with notice that they have been exposed to infection.

Library Books.—Persons are liable to penalties in the following cases: If, knowing they are suffering from an infectious disease, they take, use, or cause to be taken, any book for their use from any public or circulating library; if they permit any book taken from a public or circulating library to be used by anyone whom they know is suffering from an infectious disease; or if they return or permit to be returned to any such library any book which they know has been exposed to infection from an infectious disease.

Removal to Union Infirmary can be secured in cases of destitution by obtaining an order from the Relieving Officer, who will not, however, give such an order unless the application is supported by a medical certificate. For admission to the workhouse only, no medical certificate is necessary.

Removal of Infectious Cases.—Anyone who uses an ordinary vehicle for the conveyance of an infected person, without previously informing the driver of the purpose for which such vehicle is required, is liable to a penalty; and a driver who fails to have his vehicle disinfected after it has thus been used is also liable. It is illegal for a person suffering from a notifiable disease to enter a public conveyance. Outside the metropolitan area, direct instructions must be obtained from the medical officer of health, or his representative, with regard to the conveyance to be used for the removal of infected persons.

Medical officers of health and sanitary inspectors are generally willing to instruct a nurse as to the methods

followed in their own districts, being naturally glad to find that their orders will be intelligently followed, and their efforts to prevent epidemics consistently seconded. Not only do the methods adopted in different districts vary, but the law with regard to infectious diseases is not uniform throughout England and Wales. The provisions with regard to infectious diseases are more stringent in London than elsewhere, and the provisions contained in the Public Health Act of 1907 are in force only in districts where the Act has been adopted.

Ambulances.—The ambulances of the Metropolitan Asylums Board are for infectious cases only. Applications must be made between 9 a.m. and 11 p.m. to the Chief Office (Ambulance Department), Victoria Embankment (corner of Carmelite Street), E.C. *Telegraphic Address:* Asylums Board, London; *Telephone Numbers:* 2461 Holborn and 7180 Central. Applications in the latter part of the day must be despatched in time to reach the office before 11 p.m. Between 11 p.m. and 9 a.m. applications must be made direct to the ambulance stations as follows:—

Eastern Ambulance Station, Brooksby's Walk, Homerton, N.E., Telephone No. 2461 Holborn; North-Western Ambulance Station, Lawn Road, Fleet Road, Hampstead, N.W. (near Hampstead Heath Railway Station), Telephone No. 2462 Holborn; Western Ambulance Station, Seagrave Road, Fulham, S.W. (near West Brompton Railway Station), Telephone No. 2464 Holborn; South-Western Ambulance Station, Landor Road, Stockwell, S.W. (near Clapham Road Railway Station), Telephone No. 2463 Holborn; South-Eastern Ambulance Station, New Cross Road, S.E. (near Old Kent Road Railway Station), Telephone Nos. 7180, 7181 Central; Brook Ambulance Station, Shooter's Hill, Kent, Telephone No. 2465 Holborn.

The use of an ambulance can be secured for patients suffering from infectious disease, whether they are going to one of the M.A.B. hospitals or elsewhere. In the former case there is no charge, in the latter a charge of 5/- is made (increased if outside the Metropolitan area). If a nurse be required with the ambulance, an additional 2/6 is charged. Every application for an ambulance must state the name, sex and age of the patient, a description of the disease, the name of the person making the application,

and the full addresses from and to which the patient is to be conveyed. Arrangements for the reception of the patient must be made before application for the ambulance. Unless a medical certificate of the nature of the disease be handed to the ambulance driver, the patient will not be removed. The Invalid Transport Corps of the St. John Ambulance Association (Headquarters, St. John's Gate, Clerkenwell) is for non-infectious cases only.

Removal of the Dead.—The presence of a body kept for many days after death in the common living and sleeping room of the very poor is constantly brought to the notice of the district nurse, and a private nurse is well aware of the objection to the retention of the dead in small, badly-built houses. The use of the mortuary would meet both classes of cases, and a magistrate (on receipt of a doctor's certificate) can order the immediate removal of one who has died from infectious disease, or any "dead body which is in such a state as to endanger the health of the inmates of the same house or room." When a person dies in hospital of an infectious disease, it is within the power of a qualified medical man to certify that, in his opinion, to avoid risk to other people, the body should not be taken from the hospital or the mortuary except for interment. Disregard of this certificate is punishable by a fine of £10. It is illegal for the body of a person who has died of an infectious disease to remain unburied, without the written sanction of the medical officer of health, for more than 48 hours, except in a mortuary or room not used for other purposes. If any vehicle other than a hearse be used for conveyance of the body of a person who has died from an infectious disease, it must be afterwards disinfected.

A district nurse should, on all occasions, discourage the practice of keeping the dead in the midst of the living. The law is on her side, and it will second her efforts to prevent abuses injurious to the public health. The use of a mortuary should be advised whenever the dwelling house or lodging in which a death occurs does not furnish proper provision for the retention of the body until the funeral.

The Midwives' Act creates a Central Midwives' Board, under the sanction of the Privy Council, which consists of (1) four registered medical practitioners, of whom the Royal

College of Physicians, the Royal College of Surgeons, the Society of Apothecaries, and the Incorporated Midwives' Institute, each appoint one; (2) two persons appointed by the Lord President of the Council, of whom one is a woman; (3) and three persons, of whom the Association of County Councils, Queen Victoria's Jubilee Institute of Nurses, and the Royal British Nurses' Association, each appoint one. The Board controls the examination, admission, supervision* and suspension from practice of midwives, and publishes annually a roll of certified midwives to which women holding certain certificates in midwifery or in practice for at least one year before April 1, 1905, were admitted. After this date, any woman not so certified using the title of midwife is liable to a penalty not exceeding £5; and after April 1, 1910, it is an offence for any woman not a legally qualified medical practitioner, unless certified under the Act, to attend women in childbirth, *habitually and for gain*, except under the direction of a medical practitioner, unless in case of emergency, under a penalty not exceeding £10. A certified midwife may not employ an uncertified person as her substitute, whether such substitute be paid or not. An appeal from any decision of the Board lies to the High Court of Justice within three months of notification of such decision. The fee for certificate is not to exceed one guinea, and the penalty for fraudulent or attempted fraudulent obtaining of such certificate is imprisonment with or without hard labour not exceeding twelve months, which may be inflicted on the prosecution of the local supervising authority before magistrates, with an appeal to Quarter Sessions.

Registration of Birth.—IN ENGLAND.—The duty of registering the birth of a new-born legitimate child falls upon the father or mother; of an illegitimate child, upon the mother; failing them or her, upon the occupier of the house, if aware of the birth, or, failing him, upon any person present at the birth; or upon the person in charge of the child, within 42 days. In case of failure to register, the Registrar may, after the expiry of 42 days, require, by notice in writing, any of the said persons to attend at his office at any time not less than seven

* Midwives must give written notice of their intention to practise to the County or Borough Council, who are the local supervision authority, and in January of each year a like notice of continuance, and such Council reports to the Board.

days after notice, to give information and sign the register. In case three months expire without a registration, a solemn declaration in writing must be made by any of the said persons before the Superintendent-Registrar within 12 months. After this period, registration can be made only by written authority of the Registrar-General; and in the last two instances any person registering a child other than according to law is liable to a penalty of £10. Any person finding a new-born living child, or any person in whose charge it may be placed, has the duty of registering within seven days. The name under which any child is registered may be altered within twelve months upon notice to the Registrar. There is a penalty of £2 for refusing to give the Registrar information upon his notice.

Local authorities may, with the consent of the Local Government Board, adopt the Notification of Births Act, 1907, which provides that, in areas where the Act is adopted, written notice of the birth of every child must be given to the Medical Officer of Health within thirty-six hours after its birth. Such notification is to be in addition to and not in substitution of the requirements as to the registration of births.

The notice must be given in cases where the child is still-born.

IN SCOTLAND.—Registration is required within twenty-one days under a penalty of £1; or, failing that, within three months under a penalty of £2; or, failing that, a written declaration must be made before the sheriff within twelve months under a penalty of £5. In the case of any child, registered as illegitimate, being legitimated *per subsequens matrimonium*, the Register may be rectified on production of an extract of the entry of such marriage in the Register of Marriages at any subsequent time. In case of any doubt, the Registrar may require the production of the child under a penalty of £2.

IN IRELAND.—Upon the expiry of three months, and not later than twelve months, the declaration must be made before the magistrate; in other respects the provisions are the same as for England. A child born of Irish parents in any foreign country may, if the birth be intimated to the

Registrar-General within twelve months, and certified by the British Consul of the country, be registered in the book called *The Foreign Register*.

ON THE HIGH SEAS.—On board *any* ship carrying passengers to or from any port in the United Kingdom, any birth must in some manner be recorded by the master, and a return made by him to the Registrar-General of shipping and seamen, or, at a port in a British Possession, to the Superintendent or Chief Officer of Customs at such port; and if elsewhere, to the British Consular Offices at the port, under a penalty of £5. A certified copy of the entry made by the master is in due course sent to the General Register Office, Somerset House. No further registration of a birth on the high seas than that made by the master of the ship is necessary.

Registration of Death.—IN EVERY CASE OF DEATH where a medical man has been in attendance, a certificate should be given by him to the person who is required by Act of Parliament (*as indicated below*) to give information of the death; but in case such death is due to a violent, unnatural, or unknown cause (or in special circumstances dealt with by certain Acts of Parliament to be mentioned later), the certificate should clearly state such fact.

IN ENGLAND.—Where a person dies in a house, the nearest relative present at the death, in attendance during the last illness, or dwelling or being in the same sub-district as the deceased; failing such, any person present at the death, or the occupier, or any inmate of the house having knowledge of the death, or a person causing the body to be buried, must give information to the Registrar and sign the Register within five days.

Where a person dies ELSEWHERE than in a house.—Any relative having knowledge of the death, or any person present at the death, or any person finding or taking charge of the body, or any person causing the body to be buried, must give information to the Registrar within five days.

If, in either case, written notice of a death accompanied by a medical certificate of the cause of death be sent, further information need only be given within fourteen days.

Any person properly receiving a medical certificate of death, and failing to deliver it to the Registrar, is liable to a penalty of £2.

Any of the said persons, after the expiry of fourteen days, and within twelve months of the death or finding the body, may be required by written notice to attend at the Registrar's office and give information, and sign the Register. After twelve months, the written authority of the Registrar-General is required before a death can be registered.

IN SCOTLAND.—*Where a person dies in a house.*—The same persons as required in England must give notice within eight days, under a penalty of £1, or within fourteen days, under a penalty of £2.

Where a person dies ELSEWHERE than in a house.—The same persons as required in England must give notice within twenty-four hours, under a penalty of £2.

IN IRELAND.—The provisions are the same as in England.

Burial.—In the United Kingdom, burials usually take place under a certificate either from the Registrar, or the Coroner, or the Procurator-Fiscal of the district.

Still-born Children.—Where the Notification of Births Act has been adopted, notice must be given within thirty-six hours after the birth. Still-born children can be buried only as such—that is to say, informally—under a certificate by a medical man who was in attendance at the birth or has examined the body of the child, or by a declaration, signed by one of the persons upon whom the duty of registration of birth falls (*see page 197*), to the effect that no medical man was present at the birth, or, that his certificate cannot be obtained, and that the child was *still-born*. If satisfied as to the bona fides, the cemetery officials may proceed with the burial.

A false declaration involves a penalty of £10, or a term of imprisonment not exceeding seven years penal servitude.

Regulations as to Cremations.—The Cremation Society of England, 324, Regent Street, W., is established to promote the practice of Cremation in this country, and an illustrated handbook, entitled "Cremation in Great Britain," will be forwarded free on application, to all nurses mentioning this diary. The London Cremation Company, Ltd., 324, Regent Street, W., undertakes cremations at Woking (L. & S. W. Ry.) and Golder's Green, Finchley Road,

London, N.W. Telegrams: "Crematorium, London"; Telephone: "1907 Gerrard." The conditions to be fulfilled before the body will be cremated are:—

(a) An executor, nearest relative, or other approved person, must make a written application for cremation on the Company's Form A. The particulars given in the application must be supported by a statutory declaration made in accordance with the Statutory Declaration Act, 1835, before a Commissioner for Oaths or a Justice of the Peace.

(b) A certificate relative to the cause of death must be given on Form B by the medical practitioner who attended the deceased during his last illness, and this certificate must be confirmed on Form C by another medical practitioner specially qualified for the purpose. He must be a practitioner of not less than five years' standing, holding one of the following appointments: Medical Officer of Health, Police Surgeon, Certifying Surgeon under the Factory Act, 1901, Medical Referee under the Workmen's Compensation Act, 1906, Physician or Surgeon in a public general hospital containing not less than 50 beds, or the Company's own Medical Referee. Should there be difficulty, the Company will, on application, nominate a medical man to give the confirmatory certificate. Forms A, B and C are supplied by the Company, post free.

(c) The ordinary Registrar's certificate for burial must be produced to the Company's Medical Referee.

(d) Where a Coroner's inquest is to be held, the Coroner's order for cremation on prescribed Form E (obtainable from the Company) must be obtained in lieu of Forms B-C.

The application and medical certificates must satisfy the Company's Medical Referee. The undertaker should be reminded that the only suitable woods for the coffin are cotton wood, American white wood, Canadian elm, or thin pine (never English elm). Should a metal case be necessary, zinc must be used. The coffin should not exceed 20 inches in depth or 28 inches in width.

CHARGES AT WOKING CREMATORIUM, BROOKWOOD CEMETERY.—For a cremation, including the use of the chapel and waiting-room, superintendent and bearers' services at the crematorium, £5; Urn, from 10s. 6d.; Bearers at Woking Station (if desired), £1; Chaplain's services (if

desired) £1. 1s.; Certificate of Cremation, 2s. 7d. A hearse and carriages may be obtained at Woking if desired. Application should be made to the Secretary, 324, Regent Street, London, W. Telegrams: "Crematorium, London." Telephone: "1907 Gerrard."

CHARGES AT GOLDER'S GREEN CREMATORIUM.—For cremation, including the use of the chapel and waiting-room and all attendance after the body is placed on the catafalque by undertakers, £5. 5s.; Urn, from 10s. 6d.; Chaplain's services (if desired), 10s. 6d.; Certificate of Cremation, 2s. 7d.

Other Crematoria in England and Scotland are:—

BIRMINGHAM—Hon. Sec., Murray N. Phelps, Esq., LL. B., King's Court, 115, Colmore Row, Birmingham.

BRADFORD—Mr. H. D. Turner, Registrar, Scholemoor Cemetery, Bradford.

DARLINGTON—The Secretary, Darlington Cremation Society, 36, Priestgate, Darlington.

GLASGOW—Hon. Sec., John Mann, jun., Esq., 142, St. Vincent Street, Glasgow.

HULL—The Superintendent, Hedon Road Cemetery, Hull.

LEICESTER—The Registrar, Gilroes Cemetery, Leicester.

LEEDS—Mr. S. R. Dyson, Superintendent, Lawnswood Cemetery, Adel.

LITTLE ILFORD, ESSEX—(The City of London Corporation Crematorium)—Offices, Guildhall, E.C.

LIVERPOOL—The Manager, The Crematorium, Priory Road, Anfield.

MANCHESTER—Secretary and Registrar, Mr. A. E. Piggott—Offices, 157, King Street, Manchester.

SHEFFIELD—Mr. C. Cook, Superintendent, City Road Cemetery, Sheffield.

Witnesses.—When giving evidence at a trial or enquiry, the witness should answer the questions shortly and distinctly. Answers should be confined to the questions put, and, if possible, given either in the affirmative or negative without explanation. If any explanation be required, the counsel or persons conducting the case will ask for it. Facts should be

stated without expressing opinions, unless the witness should be asked to give her opinion. Do not give an opinion hastily, nor without being prepared to give good reasons why the opinion has been formed.

If any notes have been made by the witness *at the time* of the happening of the facts deposed to, the witness should take care to bring them with her, for although the notes cannot be read in evidence, yet the witness is entitled to refer to them when giving evidence, in order to refresh her memory. Any evidence given in a Court of Law is absolutely privileged, and no action will lie in respect of it. In describing symptoms, operations, etc., if possible, use simple language, free from technicalities, as the tribunal is very often imperfectly acquainted with medical phraseology. The witness should not display any partiality or bias for one side or the other, but should give her evidence fairly, honestly, and with promptness, and without regard as to what may be the result or effect of her evidence.

Dying Declarations.—The declaration of a person since deceased is admissible in evidence in a Criminal Court of law, provided that:—

(a) The charge is for the murder or manslaughter of the declarant.

(b) The cause of his death, or any of the circumstances of the transaction which resulted in his death, are the subject of the declaration.

(c) Deceased was conscious of being in a dying state at the time he made them.

(d) He had no hope whatever of ultimate recovery.

(e) The fear of death was the fear of immediate death from causes then operating.

The admissibility of such evidence frequently gives rise to much legal argument. All, therefore, who become the recipients of such statements, should carefully note the mental condition and surrounding circumstances in which such statement is made.

Wills.—A will to be valid must be in writing, and the signature of the testator must be made or acknowledged by him in the presence of at least two witnesses present at the

same time. The witnesses must afterwards attest the signature of the testator in his presence. The signatures must appear at the foot or end of the will. No beneficiary, or the husband or wife of a beneficiary, should be a witness to the will; this fact would not invalidate the will but it would render the legacy void. Marriage after the execution of a will as a rule renders the will void. Also persons under 21 years of age cannot make a will. The following is a simple form of will:—

FORM OF WILL

This is the last will and testament of me, Edward Roberts, of Hill House, Leicester, in the County of Leicestershire. I give and devise all my estate and effects, real and personal, of which I may die possessed or be entitled to, unto..... absolutely, and I appoint..... executors of this my will, and I hereby revoke all former wills and codicils. Dated this first day of January, One thousand nine hundred and thirteen.

Signed by the testator in the presence of us, who thereupon signed our names Edward Roberts *in his and each other's presence.*

Owen Fenn, of 11, High Street, Leeds

John Cook, of 45, Grey Street, Bath

National Insurance Act, 1911.—This Act, which came into operation on July 15, 1912, provides for insurance against loss of health and employment, and is so far-reaching in its effects that it would be out of place in a work of this kind to attempt more than a passing reference to it. It affects practically all employers, the vast majority of employed persons and many other classes, as, for example, medical men, officers of Friendly Societies, as well as small tradesmen and independent workers of moderate means.

The Act is also one of extreme complexity in its provisions, and it behoves all, therefore, who are affected by it, to refer to and become acquainted with them as set out in the Act itself.

INFORMATION WITH REGARD TO APPOINTMENTS

To the trained nurse, who, having completed her course at a hospital, infirmary or other school, wishes to take the next step in her professional career, many avenues lie open. She may decide to adhere to the routine of general nursing, institutional or private, or she may specialise; in either case her training will stand her in good stead.



Institutional Nursing.—After receiving her certificate at the end of three or four years' training, the nurse will be eligible for a post as sister in a hospital at a rate of pay varying from £28 to £40 a year, generally rising by annual increments of £2. The following superior posts are open to those who by length of service and special aptitude show fitness for them—home sister, housekeeping sister, assistant matron, night superintendent. The pay attached to these posts varies from £40 to £60 a year, and they furnish useful training for the position of matron. The matron receives, according to the size and importance of the institution, a salary of from £45 to £150 a year. These figures refer to Great Britain. In India and the Colonies the rate of pay is on a somewhat higher scale. Poor-law service is a distinct branch in itself. The more important infirmaries are very large buildings, where as many as 1000 patients are accommodated, and there are various administrative posts to which hospital-trained nurses are sometimes appointed. The practice of appointing nurses who have received their training in poor-law infirmaries for superior posts in these institutions is, however, becoming more general.

Private nursing offers in many respects, and at any rate for the first few years of a trained nurse's career, great attractions, such as higher pay, frequent holidays, greater personal liberty and change. Attached to an agency or institution, a nurse makes, in England, an income of from £36 to £60 a year, living in; or, living out, from £80 to £100. Attached to a co-operation which merely takes a percentage of her fees for the upkeep of a central organisation, her risks are greater, but if fully employed the remuneration received is good.

District and Village Nursing.—Candidates for this work, under the auspices of Queen Victoria's Jubilee Institute of Nurses, should have had three years' training at a general hospital or poor-law infirmary. Salaries commence at £70 or £75 a year, with increases to £80 or £100. In towns where several district nurses are working together, a house is usually provided, and where this is done the salary, in addition to board and lodgings, is £35 to £40 a year. Superintendents receive from £100 to £120. In addition to the Jubilee Institute, the county and other nursing associations offer good posts. A midwifery certificate is an important feature of a district nurse's recommendations. Village nurses are paid from £50 to £70 a year, and are usually expected to be able to ride a cycle. The course of training insisted upon is considerably less than that of a regular trained nurse.

Midwifery and Monthly Nurses.—Fees for attendance upon a midwifery case vary from 10/6 to 5/-. Under the Midwives' Act attendance must be given for ten days.

In private practice among the better class patients it is usual for the monthly nurse to stay at least a month, when her fee varies from three to six guineas or more, with the addition of board and lodging.

Fever Nursing.—A year may be spent with advantage at an isolation hospital, after the period of training at a general hospital, in order to attain experience in the nursing of fevers. This arrangement is sometimes reversed by those who desire to enter the nursing profession as soon as possible, the reason being that probationers are received in fever hospitals at an earlier age than in general hospitals and infirmaries.



Army and Navy.—A course of three years in a civil hospital is recognised as "training" in candidates for Queen Alexandra's Military Nursing Service. The actual nursing is done by orderlies of the Royal Army Medical Corps under

the superintendence of the sisters. Candidates should be of good social standing. If accepted, they serve a probation of six months before finally joining the service. As they are required to serve abroad from three to five years, the health and general physique must be thoroughly sound.

The conditions of appointment for Queen Alexandra's Royal Naval Nursing Service are much the same. The number of sisters required is not large, and vacancies seldom occur.

There are also three supplementary organisations for the supply of nurses in war, namely: (1) The Army Nursing Service Reserve—founded by Princess Christian in 1896. Candidates must be fully trained nurses between the ages of 25 and 35. Upon joining they bind themselves to come up in the event of war for service in a military hospital, but before being finally drafted for duty they have to be accepted as members of the official reserve of nurses. This is (2) Queen Alexandra's Imperial Military Nursing Reserve. Members of the Reserve are enrolled for three years, and agree to serve at home or abroad. They are allowed an annual retaining fee of £2, and must report themselves at stated intervals to the matron-in-chief. The third organisation referred to is the Territorial Force Nursing Service, which is in course of formation, the plan being to assign two matrons, thirty sisters and eighty-eight nurses to base hospitals in twenty-three different centres, to be equipped in case of invasion.



Indian and Colonial Appointments.—The National Association for supplying Female and Medical Aid to the Women of India was founded through the instrumentality of Lady Dufferin in 1885.

There are now two hundred and sixty hospitals, special wards and dispensaries of various kinds affiliated to the association, and although the demand is largely for native and Eurasian women as nurses, there are a number of

superior posts for European nurses. The rates of pay at a general hospital, such as that of Madras, range from Rs. 35 to Rs. 55 per month for nurses, Rs. 60 to Rs. 70 for head nurses, and Rs. 300 to Rs. 400 for assistant matrons and matrons. Nurses receive a ration allowance of Rs. 20 a month and uniform at a cost of Rs. 30 a year. A knowledge of dispensing, some training in the nursing of fevers and tropical diseases, a talent for languages and the ability to cook, sew and ride, are useful assets in the equipment of the nurse who desires an Indian appointment.

The conditions of hospital work in Canada and Australia are very similar to those which obtain in Britain. Nurses are required to pass an examination or give other evidence of their training before taking up the work.

Miscellaneous.—In the appointment of its School Nurses, the London County Council demands that they should have had at least three years' training at a General Hospital or Poor-law Infirmary. Additional experience at a Children's Hospital is also a recommendation.

Health Lecturers, Sanitary Inspectors and Midwifery Inspectors are occasionally appointed by the Home and Colonial Governments and Municipal Authorities, and for these posts nurses possessing the requisite educational qualifications are peculiarly eligible. To become a Sanitary Inspector it is necessary to pass the examination of the Sanitary Inspectors' Examination Board, or to have had three years' experience before 1895. Further particulars may be obtained from the Hon. Sec., 1, Adelaide Buildings, London Bridge, E.C.



GENERAL RULES OF QUARANTINE

The details in the following table are, for the most part, in accord with the general regulations of the Medical Officers of Schools' Association.

The undermentioned periods of quarantine can be considered safe only if thorough disinfection be carried out previous to return amongst the healthy. This should in all cases be done under the guidance of the medical attendant.

PERIODS OF QUARANTINE

Disease	Isolation necessary after suffering from :	Isolation required after exposure to :
Asiatic Cholera	Seven days from complete cessation of diarrhoea.	12 days' quarantine
Chicken Pox	Until every scab has fallen off.	20 days' quarantine
Diphtheria	Four weeks after convalescence is completed, there being no longer any form of sore throat, or any kind of discharge from the throat, eyes, nose, ears, etc., no albuminuria, and bacteriological examination negative.	12 days' quarantine
Enteric Fever (Typhoid Fever)	There appears evidence that in certain cases the power of infection may persist for a long time, even years—probably through the faeces (typhoid carriers).	23 days' quarantine
German Measles (Rötheln) and Epidemic Roseola	In not less than ten days from the date of the appearance of rash, the exact time depending on the nature of the attack.	20 days' quarantine
Influenza	Three days after the temperature has become normal, and all catarrhal discharges have ceased.	5 days' quarantine

GENERAL RULES OF QUARANTINE

Disease	Isolation necessary after suffering from:	Isolation required after exposure to:
Measles	Not less than two weeks from the date of the rash, if all desquamation and cough have ceased.	16 days' quarantine
Mumps	Not less than two weeks; and then only if one clear week has elapsed after the subsidence of all swelling.	24 days' quarantine
Plague	Twenty-one days.	21 days' quarantine
Ringworm	Until a medical examination of the whole scalp (any suspicious spots being scrutinised with a lens) reveals no broken-off, diseased hairs.	—
Scarlet Fever	Not less than six weeks from the date of the rash, and then only if desquamation have completely ceased, and there be no appearance of sore throat, no discharge from the ears, nose, etc., and no albuminuria.	10 days' quarantine
Small Pox	Until every scab has fallen off.	16 days' quarantine
Typhus	After four weeks. The bedding and clothes retain the poison for a long time.	14 days' quarantine
Whooping Cough	Not less than five weeks from the commencement, and then only if all characteristic spasmodic cough and whooping have ceased for at least two weeks.	21 days' quarantine

MEDICAL BATHS IN COMMON USE

1. THE HOT BATH. Temperature from 98° F. to 106° F. (36.7° C. to 41.1° C.). N.B.—The cold water should be placed in the bath first, and the hot water added until the thermometer registers the required temperature.
2. THE WARM BATH. Temperature from 92° F. to 98° F. (33.3° C. to 36.7° C.).
3. THE TEPID BATH, 85° F. to 92° F. (29.4° C. to 33.3° C.).
4. THE COLD BATH, 33° F. to 65° F. (0.6° C. to 18.3° C.). Broadly defined, a cold bath means a bath at a temperature incidental to the time and place, without any hot water being added. It may be otherwise expressed as water at 65° F. (18.3° C.), or reduced by gradual addition of ice to 40° F. (4.4° C.), or below.
5. THE ALKALINE BATH. Add a quarter of an ounce of sodium carbonate (washing soda) to each gallon of water.
6. THE BRAN BATH. Take two ounces of bran to each gallon of water. Mix the bran with a small quantity of boiling water, and add it to the water in the bath.
7. THE SULPHUR BATH. Add a quarter of an ounce of *potassa sulphurata* to each gallon of water.
8. THE MUSTARD BATH. One half to one ounce of mustard to each gallon of water—the water as hot as can be borne.
9. THE VAPOUR BATH. Temperature from 90° F. to 140° F. (32.2° C. to 60° C.). A vapour bath may be improvised by placing in the bed a few "stone" ginger-beer bottles, filled with nearly boiling water, tightly corked down and wrapped round with pieces of flannel wrung out of hot water. They should be placed in the bed round about the patient, who should be well covered up.
10. THE TURKISH BATH. Temperature ranges from about 90° F. (32.2° C.) in the cooler rooms, to 230° F. (110° C.), or even higher, in the hottest room. No one should take Turkish baths without being examined and professionally advised to do so.





GOLDEN SEAL (*Hydrastis canadensis*)

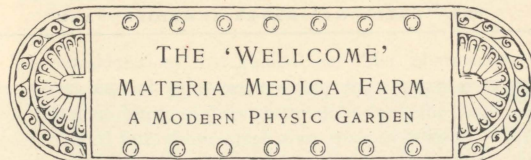
An experimental crop of *Hydrastis* (*Hydrastis canadensis*) grown under natural conditions, in a grove shaded by hedges and trees.



DIGITALIS IN FLOWER

Digitalis purpurea is obtained from the seed of carefully-selected wild plants, any variants from the type being struck out. Great care is taken in collecting and drying the leaves, failing which their medicinal activity would be adversely affected. Blighted, faded or defective leaves are rejected, and only the finest preserved for use. The chemistry of the active principles of *Digitalis* is still obscure, and physiological tests are employed in standardising B. W. & Co. preparations of this herb.

Reproduced from photographs taken on the 'Wellcome' Materia Medica Farm, and developed with 'Tabloid' Photographic Chemicals.



OF "physic gardens," that founded at Chelsea in 1673 was the official prototype. The picture of careful dames and frugal housewives tending and culling herbs and simples, in "high-walled gardens green and old," is brought to mind in reading of these old physic gardens, which are associated with much quaint

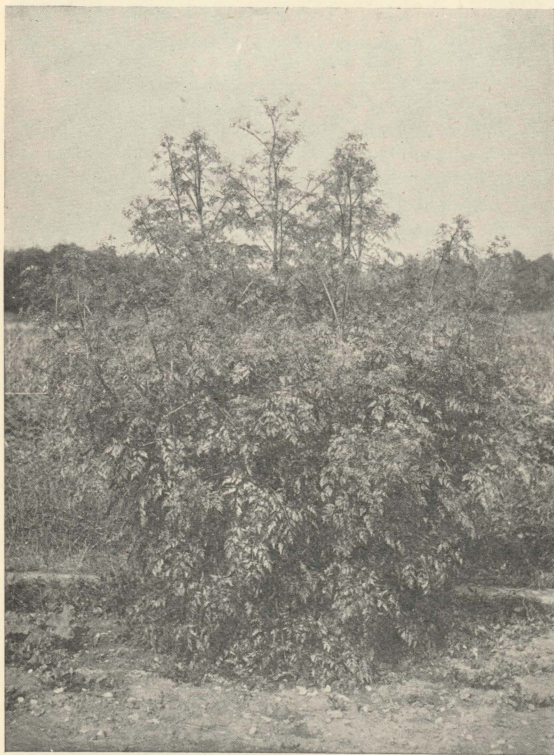
Of physic
gardens

lore of "balmes and cordials," sirops, essences and "sovrane remedies," of which we get infrequent glimpses in the literature of the seventeenth century. The Chelsea Physic Garden was established that "apprentices and others" might "better distinguish good and useful plants from those that bear resemblance to them, and yet are hurtful, and other the like good purposes." Evelyn, in 1685, thus records a visit to the Chelsea "Physic Gardens," where he saw the Cinchona tree: "7 August. I went to see Mr. Wats, Keeper of the Apothecaries' Garden of Simples at Chelsea, where there is a collec-
Evelyn

tion of innumerable varieties of that sort, particularly, besides many annuals, the tree bearing jesuits' bark, which had don such wonders in quartan agues." To the support of its founders, the Society of Apothecaries, Chelsea Gardens owe their continuance, although they are now under different control.

Earlier than the Apothecaries' Garden of Simples at Chelsea, and differing from it chiefly in that it was the creation of a public body, were the gardens of private herbalists in the sixteenth and seventeenth centuries. One such was the garden of John Gerarde in Holborn, within a stone's-throw of where Burroughs Wellcome & Co.'s Chief Offices, London (Eng.), now stand.

Gerarde's
herb-
garden

HEMLOCK (*Conium maculatum*)

A typical bush of Hemlock (*Conium maculatum*). The fresh leaves and branches are collected when the fruit begins to form.

Reproduced from a photograph taken on the 'Wellcome' Materia Medica Farm, and developed with 'Tabloid' Photographic Chemicals.

The considerations that guided the older pharmacists—acute and learned men—were chiefly those relating to the recognition of drugs; of distinguishing, in short, the medicinal and beneficial from those which were toxic or noxious. The plants as grown were accepted without question for the preparation of galenicals, and, as the crude drugs are subject to great variation in composition, so, of necessity, their preparations varied in potency and in therapeutic activity. The isolation of alkaloids in the early part of last century made this apparent. How to ensure constancy in strength of active principles and alkaloidal content, in medicinal preparations of vegetable origin, became an urgent problem. A paper by Carr and Reynolds, published in the *Chemist and Druggist* (London, Eng.), illustrated the necessity of solving that difficulty. It furnished an account of the analysis of certain crude drugs such as are ordinarily offered for sale. In the case of Cinchona, they found a difference between the highest and lowest grades, bought on the actual market, of 3.58 per cent. of Quinine and Cinchonidine; in Belladonna herb, a difference of 0.85 per cent. of total alkaloids; of Hydrastine in Hydrastis root of 2.3 per cent., and of Berberine in the same root of 3.5 per cent., etc. These serious figures, representing marked differences in activity of the drugs, illustrate the necessity for adopting some means of securing uniformity in strength.

Of old
methods
and new re-
quirements

Standardisation is now recognised as essential. In this, as in other departments of pharmacy, Burroughs Wellcome & Co. have been pioneers. They have also applied the principle of scientific control to the cultivation of the plants employed by attention to the composition of the soil, selection of the best varieties, collection at the ideal stage of growth, and other means, thus eliminating adventitious factors of variability. This has been accomplished by the establishment of a scientific farm near the 'Wellcome' Chemical Works at Dartford. The greater

The root of
the matter

part of this 'Wellcome' Materia Medica Farm is devoted to staple crops, but an experimental section is maintained in constant activity. Belladonna, for instance, has been treated with different manures, and shaded, during growth, by various coloured fabrics. In the course of these researches it was ascertained that the yield of alkaloid is affected to a greater extent by climatic conditions than by other alterations in environment, and the opinion has been reached that the superiority of English leaves is due to the climate.

Experiments with Broom tops, again, proved that the amount of sparteine contained in them varies according to the time of year, being low during the flowering and growing period, and increasing during autumn and winter when reproductive activity has ceased. The *Digitalis* required for the production of 'Wellcome' Brand Concentrated Tincture of *Digitalis* and 'Wellcome' Brand Extract of *Digitalis* is also grown at the 'Wellcome' Materia Medica Farm. Variations in the character of the leaves have thus been reduced to those necessarily due to changes of season from year to year. Added

Advantages to which, errors due to the inclusion of faulty or untrue specimens are avoided, whereas, according to recent literature on the subject, such errors are frequently to be found in the collections made both by amateur and professional herb-gatherers. Further advantages derived from this conjunction of the actual growing of the plants with the preparation of their galenicals are :—

(1) A drug may be expressed or worked up immediately it has been collected.

(2) Herbs may be dried directly they are cut, before fermentation and other deteriorating enzymic changes have set in.

(3) Freedom from caprice on the part of collectors, who, in gathering wild herbs, are very difficult to control in the matter of adulteration, both accidental and intentional.

(4) The ability to select and cultivate that particular strain of a plant which has been found by chemical and physiological tests to be the most active, and which gives the most satisfactory preparations. Notable instances of these are to be found in connection with *Digitalis* and *Belladonna*.

An article in the *Chemist and Druggist*, of January 29, 1910, gives an idea of this latest of "physick gardens," the site for which was chosen

"on an undulating slope, with here and there a clump of trees and a strip of wild woodland, between the river and the North Downs, hard by the little village of Darenth. No more ideal spot for a herb farm could have been chosen. It has shade, sunshine and moisture, and a fine loamy soil, varied by sandier uplands. Here the firm have, for the last six years, been cultivating medicinal plants under the immediate superintendence of pharmaceutical and botanical experts. The farm was established, firstly, to provide opportunities and materials for research and experiment, and secondly, to supply the manufacturing departments with medicinal herbs of proper quality.

The
'Wellcome'
Materia
Medica
Farm

"A visit to the farm shows that the greater part is devoted to the cultivation of staples; but a number of plots are used for experimental crops. Among such are meadow saffron (*Colchicum autumnale*), with its pale-purple flower. Lavender, peppermint, and French roses grow side by side. Senega and the unpretentious taraxacum, with its bright yellow petals, occupy other spaces. Ginseng, the root that plays so important a part in Chinese medicine, is also grown. *Podophyllum bellatum*, *Scopolia atropoides*, *Datura meteloides*, sea poppy (*Glaucum luteum*), and *Grindelia robusta*, are other plants that one does not usually find growing on a scale greater than the experimental; but the plots of *Hydrastis canadensis* are botanically and commercially the most interesting on the farm, in view of the fact that we are coming within measurable distance of the end of the natural supply from North America.

"The purpose which Burroughs Wellcome & Co. had immediately in view when they established this farm, i.e. supplying the products of the field direct to their Works, has been fulfilled. . . . On the research side, experiment goes on, especially in regard to selection and cultivation of strains which have been found by chemical and physiological tests to be the most active."

OBSTETRIC TABLE

The calculation is made from the first day of the last menstrual period.

Jan.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Jan.
<i>Oct.</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	<i>Nov.</i>
<i>Feb.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28				<i>Feb.</i>
<i>Nov.</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5				<i>Dec.</i>
<i>Mar.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>Mar.</i>
<i>Dec.</i>	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	<i>Jan.</i>
<i>Jan.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<i>Apr.</i>
<i>Jan.</i>	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4		<i>Feb.</i>
<i>May</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>May</i>
<i>Feb.</i>	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	<i>Mar.</i>
<i>June</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<i>June</i>
<i>Mar.</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6		<i>Apr.</i>
<i>July</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>July</i>
<i>April</i>	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	<i>May</i>
<i>Aug.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>Aug.</i>
<i>Sept</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	<i>June</i>
<i>May</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<i>Sept.</i>
<i>June</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7		<i>July</i>
<i>Oct.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>Oct.</i>
<i>July</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	<i>Aug.</i>
<i>Nov.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<i>Nov.</i>
<i>Aug.</i>	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6		<i>Sept.</i>
<i>Dec.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<i>Dec.</i>
<i>Sept.</i>	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	<i>Oct.</i>

1912		1913		1914	
JANUARY	FEBRUARY	MARCH	JANUARY	FEBRUARY	MARCH
S. 1 714 21 28	S. 4 1118 28	S. 1 810 17 24 31	S. 1 811 28	S. 1 815 28	S. 1 815 28
M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31
W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26
Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28
F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27
S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27
APRIL		MAY		JUNE	
S. 1 714 21 28	S. 1 714 21 28	S. 1 714 21 28	S. 1 811 28	S. 1 815 28	S. 1 815 28
M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31
W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26
Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28
F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27
S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27
JULY		AUGUST		SEPTEMBER	
S. 1 714 21 28	S. 1 714 21 28	S. 1 714 21 28	S. 1 811 28	S. 1 815 28	S. 1 815 28
M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31
W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26
Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28
F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27
S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27
OCTOBER		NOVEMBER		DECEMBER	
S. 1 714 21 28	S. 1 714 21 28	S. 1 714 21 28	S. 1 811 28	S. 1 815 28	S. 1 815 28
M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31	M. 2 1017 24 31
W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26	W. 3 1519 26
Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28	Th. 4 1118 28
F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27	F. 5 1520 27
S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27	S. 6 1520 27

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VALPARAISO—Daube & Co.
VIENNA—M. Kris
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STNOBTEFRIG

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1913

GOOD FRIDAY	MARCH 21
EASTER MONDAY	MARCH 24
WHIT MONDAY	MAY 12
AUGUST BANK HOLIDAY	AUGUST 4
CHRISTMAS DAY	...	...	DECEMBER 25
BOXING DAY	...	...	DECEMBER 26

1914

GOOD FRIDAY	...	...	APRIL 10
EASTER MONDAY	...	...	APRIL 13
WHIT MONDAY	...	...	JUNE 1
AUGUST BANK HOLIDAY	...	...	AUGUST 3
CHRISTMAS DAY	...	...	DECEMBER 25
BOXING DAY	...	...	DECEMBER 26

The holidays and Quarter days given in the following pages
are those applicable to England, except where otherwise stated.

OBSTETRIC

ENGAGEMENTS

No.	NAME AND ADDRESS	When Engaged	When Expected	When Attended	Sex	No. of Labour	Age	Fee	When Paid	REMARKS
130	SNOW HILL BUILDINGS, LONDON, E. C.									
131	INDEX TO DIARY PAGES									
132	451, KENT STREETS, SYDNEY									
133	DIARY S. N. VANDY									
134	NOTES									
135	OBSTETRIC ENGAGEMENTS									
136	UNITED STATES OF AMERICA									
137	STREET DRUM									
138	(NEAR FIFTH AVENUE), NEW YORK CITY									
139	101									
140	GOOD FRIDAY									
141	GOOD FRIDAY									
142	GOOD FRIDAY									
143	GOOD FRIDAY									
144	GOOD FRIDAY									
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OBSTETRIC

ENGAGEMENTS

No.	NAME AND ADDRESS	When Engaged	When Expected	When Attended	Sex	No. of Labour	Age	Fee	When Paid	REMARKS
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27 OBSTETRIC

ENGAGEMENTS

[illegible]

OBSTETRIC

ENGAGEMENTS

No NAME AND ADDRESS When Engaged When Expected

When Attended Sex No. of Labour Age Fee When Paid REMARKS

1914

Aug 5th 1914 Declaration of War.
Nursing Mr. McChristie at New Town.

Went to see Col. Giblin P.M.O. Hobart
during the 9th to 15th Aug. & put my
name down for service abroad.
First Army Slogan to enlist.

Nursed Mrs. Gower 18th to 22nd Aug.

Aug. 23 to 31st with Miss

at Lindisfarne. While there
recd. orders to hold myself in
readiness to proceed on Transport
for foreign service.

Sept. 26th Orders to embark at 2pm
Order cancelled, but pay started from
date. Duty on Transport each
morning.

Oct. 20th Left Hobart per H.M.T.
"Sealong" with Tas. Troops of 12th
A.I.F.

Dec. 9th 1914. Arrived in Alexandria
harbour.
Dec. 10th 1914. Left per troop train 9am
Arrived at Meina 5.30pm

Dec. 24. Recd. Charles letter (1st) Dined
at Continental with Capt. Whitham &
Smith, & had a pleasant evening after.

Dec. 29th Went to Sakheara on duty.

Dec. 31st Went on night duty for a fortnight.

1—WED. (JANUARY) Scotch Bank Holiday. New Year's Day

2—THUR.

3—FRI.

4—SAT.

JANUARY, 1913

5-Sun. 2nd after Christmas

6-MON. Epiphany

7-TUES.

8-WED.

9-THUR.

10-FRI.

11-SAT.

12-Sun. 1st after Epiphany

13-MON.

14-TUES.

15-WED.

16-THUR.

17-FRI.

18-SAT.

JANUARY, 1913

off night duty

JANUARY, 1913

Tuesday.

19—~~SUN.~~ Septuagesima

Visited Citadel & Heliopolis with R.M.A.

20—MON.

21—TUES.

22—WED.

23—THUR.

24—FRI. Had Communion at Camp.
and Mass with 12th Batt. in evening.
Went to Pyramids after with R.M.A.

25—SAT.

JAN.—FEB., 1913

26—~~SUN.~~ Sexagesima

Moonlight picnic to Sphinx with our Officers.
Heard on return we were to leave next day
for Ismailia.

27—~~MON.~~ Wednesday.

Left Menou & came by train to
Ismailia.

28—TUES.

29—WED.

30—THUR. 1st patient arrived. On night duty.

31—FRI.

1—SAT. (FEBRUARY)

FEBRUARY, 1915

2-Sun. Quinquagesima. Scotch Quarter Day, Candlemas
Engagement with Turks 4 miles from our
hospital + 2 miles from our trenches.
Heard the guns this morning

3-MON.
more fighting. Got in 11 wounded. Some
very bad.

4-TUES.
3 more wounded in. Christian died
during night.

5-WED. Ash Wednesday
No more wounded, but some Medical
cases came today. Han died 10.30 pm
Number of wounded Turkish prisoners in tent
hosp. near Station. Attended to by our M.Os.
Turks losses heavy. Indian trap full of wounded Indians

6-THUR.

7-FRI.

8-SAT. Wards very light, most of cases
sent to base hospitals.

FEBRUARY, 1915

9-Sun. 1st in Lent

Saw the Portico boats in which a few Turks
crossed the Canal at Toosoon. All boats
captured or destroyed by our people
Sisters McTab + Green went to Cairo by morning
train; number of native women + children on same
10-MON. train, being sent out of danger area.

Heard the Turks have retreated 50 miles
Some new Med. cases in today. No excitement

11-TUES.

Rust dying all night.

12-WED.

Rust died 9 am. Sister Rad. went to
Cairo by 2 pm train with Sister Marshall.

Took Theatre for 7p. 10 pm. (Appendix.)

13-THUR.

Sister Rad. returned 10 pm. Brought a letter from
R.M.A. 4 of us went down Canal as far as
Big Bitter Lake; landed at Toussoune + walked
over battlefield, picked up cartridges, bullets, etc.
also landed Serapeum, + were shown the desert

14-FRI. which Turks advanced. Had a lovely day.
Left 11 am + returned 5 pm. Saw grave of German
officer. Italian Warship passed us in
canal.

Feb. 14 Off night duty.

15-SAT.

One day duty, Surgical Wds.

16—Sun. 2nd in Lent

17—MON. Major Clogston took us to Serapeum. Enjoyable trip, more mementoes.

18—TUES.

19—WED.

20—THUR. Sent Snap to R.M.A.
Picture Show in evening. Great fun.

21—FRI.

22—SAT. N. Z. Concert.

23—Sun. 3rd in Lent

24—MON. Day off with Rad. Had lunch & tea in Stakary Gardens. On arriving home learned we are to move on & back

25—TUES. Picture Show in evening
Back to Cairo we are going. Letter from R. M. A. re departure of 12th Brig.26—WED. Large aft. tea party on lawn
Several snaps taken. Visitors in evening. Sent wire to R.M.A.27—THUR. Left Ismailia by 10 am.
train, arrived Mena about 3.30 pm
Saw R. M. A. in aft. & Capt. Lane & Whiston & Maj. Elliot in evening.28—FRI. Had aft. tea with 12th Batt.
Also saw R.M.A. twice. Watched our beloved men march away.
Camel ride to Sphinx in evening
beautifully moonlight.1—SAT. (MARCH)
Photo taken on Camel at Sphinx
Shopping in afternoon.
Very sad day

MARCH, 1913

2-Sun. 4th in Lent Visited Citadel Stores in
ans. Anderson Bey showed us round
workshops, also his wonderful collection
antiques. Came to live at Heligpolis
Palace Hotel.

3-Wed.
4-Mon. Began duties at Abbassia
Military Hosp.; worked until 8p.

4-TUES. off duty in afternoon. ~~last~~
went into Cairo & did some shopping

5-WED. Sent wire to mother

Sat.
6-THUR. off duty in aft. Went to
Khan el Khayma with Rd & her brother
Had a camel ride, motored back to
Cairo & had dinner Grill room Continental
Lettens when we came home from R. A. - Day

7-FRI.

8-SAT.

MARCH, 1913

9-Sun. Passion Sunday

10-Mon. Wed.

11-TUES.

Friday
12-WED. Day off.

13-THUR.

14-FRI.

15-SAT.

MARCH, 1913

16—~~Sun.~~ ^{Tuesday} Palm Sunday
Dined with Mr. Cosby, & went to
Kursaal after.

17—~~Mon.~~ ^{Wed.} St. Patrick's Day. Bank Holiday, Ireland

18—~~Tues.~~ ^{Thursday} Recalled to mind for
duty on Hosp. Ship, Sicilia which
is being wounded. May leave at
anytime. Orders not to unpack.

19—~~Wed.~~ ^{Friday} Dined with Mr.
Cosby & married couple Mr. & Mrs.

20—THUR.

21—FRI. Good Friday. Scotch Bank Holiday

22—SAT.

31 MARCH, 1913 AM

23—Sun. Easter Day Working with Sister
Cunningham in Wd. 6. until boat
goes.
Mr. Hogge came up. Went to Citadel, Zoo,
& Pyramids, & dined at Sheppard's Grill Room

24—MON. Easter Monday

25—TUES. Lady Day

26—WED.

27—THUR.

28—~~Fri.~~ ^{Sunday} Had letters from
'Ours' Major Elliott & Sergeant
Armitage.

29—SAT.

MAR.—APRIL, 1913

30—Sun. 1st after Easter. Low Sunday

31—~~Mon~~ Wed. Another letter from
Maja Elliott + one from Capt Lane.

1—TUES. (APRIL)

2—WED.

3—THUR.

4—FRI.

5—SAT.

APRIL, 1913

6—Sun. 2nd after Easter

7—MON.

6
8—TUES. Two P. Cs. & 3 letters from the
little Corporal.

9—WED.

8
10—THUR. Left Mena, came by train
which left Cairo 12 noon for Alexandria, &
came aboard H.M.H.S. Sicilia about 5 p.m.

9
11—FRI. Went on shore this afternoon.

10
12—SAT. Wrote letters in afternoon

APRIL, 1913

10-Sun. 3rd after Easter Went ashore + to St. Mark's Church in morning. Slept most of afternoon.

12-14-MON. Left Alexandria at 12.30 p.m. Fairly smooth. Began cutting up dressings etc.

15-TUES. Sea fairly good, tossing a bit. Sighted land (islands) late in afternoon. Some rain + wind towards evening.

16-WED. Lovely morning, rather cold in afternoon. All feeling well. In Aegean Sea + in sight of Greek islands.

17-THUR. Arrived Lemnos at about 6 a.m. Wrote to Sergeant, Major E. + Capt. L. Sisters posted on board Orsadian. Went for a trip round in motor launch. Did not see anyone we knew. Saw the Suez Canal.

18-FRI. Col. Giblin came on board this morning. Went for another trip round transport called at 'Devanika'. The 4000 Tons. Left a letter at 'Suffolk' for R.M.A. Some 8-10 officers called + stayed the night.

19-SAT. Capt. Lane called on us this morning for 'brassards'. Went on board 'Agamemnon' to aft. tea.

APRIL, 1913

20-Sun. 4th after Easter Agamemnon's Officers called on us. Also some of the 190th Inf. Officers. Went over to 'Boniam' to church service after at 7 o'clock. Saw Col. Siblin, Capt. Atkins, Campbell, Roy Breece, 17000 Johnston, + Tom Freeman.

21-MON. A quiet day. Most of the others went on shore + visited the village, but R. + I stayed on the boat.

22-TUES. A quiet day. Blowing hard most of day.

23-WED. St. George's Day

24-THUR. Very miserable day.

25-FRI. H.S. Garcon arrived am. Sisters Marshall, Gibson, Tucker, + St. M. Wakeford transferred from us to her.

26-SAT. 'Ours' sailed out of Mudros after a long line of warships.

25 ~~27~~ Sun. Rogation Sunday

Sailed 7 am. for Dardanelles.

Wounded began to come on board during night.

26 ~~28~~ MON.

Wounded coming on board all day

27 ~~29~~ TUES.

ditto

28 ~~30~~ WED.

Left evening for Ale.

29 ~~31~~ THUR. (MAY). Ascension Day30 ~~1~~ FRI.

1 ~~2~~ SAT. Arrived Ale. no room for our wounded.
Sailed for Malta

24 Sun. Sunday after Ascension

3-5 MON. Scotch Bank Holiday

4-6 TUES.

5-7 WED. Arrived Malta early.
Went ashore & visited wounded
Aus. brought by 'Clan'.
all wounded off boat by 8³⁰ pm.

6-8 THUR. Went ashore: visited
St John's Cathedral & Palace.
Left 4.30 pm for Lemnos.

7-9 FRI.

8-10 SAT.

MAY, 1913

MAY, 1913

9 11-Sun. Whit Sunday

Arrived Lennox.

10 12-MON. Whit Monday

Left Lennox 9 am. Arrived Dandenell
2 pm.

11 18-TUES.

12 14-WED. Saw high battle in
progress, lasting from 5 pm till
11 pm.

15-THUR. Scotch Quarter Day, Whitsun

13 Visited H.S. Guilford Castle. May
wounded of 2nd Brig. Inf. on board.
Early about 2 am. Battle ship 'Coliad'
sunk by torpedos, only 160 saved out of 800.
Happened just inside mouth of Dandenell

16-FRI.

14 Wounded on board

17-SAT.

16 19-Sun. Trinity Sunday

17 19-MON.

18 20-TUES.

19 21-WED.

20 22-THUR.

21 23-FRI.

Moved up to Australian
part of Dards. Ssg. Arrivage
on board 'Reindeer' Sent me
Semaphore message.

22 24-SAT. Empire Day

Left in a hurry for Lennox.
during morning, arriving in aft
outer harbor

MAY, 1913

^{23rd}
23-Sun. 1st after Trinity

Moved up into inner harbour
Another lot of wounded, filled up
almost.

^{24th}
24-Mon. Another batch of wounded
Left for Alex. at 5 p.m.

^{25th}
25-TUES.

^{26th}
26-WED.

^{27th}
27-THUR. Arrived at Alex. Letters

^{28th}
28-FRI.

^{29th}
29-SAT. Left early am for Lemnos.
Col. Gillen on board.

JUNE, 1913

^{30th}
30-Sun. (JUNE) 2nd after Trinity.

Passed island of Crete.

^{31st}
31-Mon. Communion Service.
Arrived at Lemnos 7 pm

^{1st}
1-TUES. Moved up into inner harbour
43 wounded came aboard in
afternoon

^{2nd}
2-WED. Left Lemnos for Aus. Station
Gallipoli at 6.30 am. Arrived 1 pm
Shelled from shore as we neared
anchorage. Message recd. from Sonny
at 1 pm from shore. Gascon here.

^{3rd}
3-THUR. Gascon left at 5.30 pm. Capt.
Loring & Gen Birdwood & party called.
Sent parcel & letters ashore per Capt L.
to Sonny & Capt. Lane.

^{4th}
4-FRI. Wounded coming aboard.

^{5th}
5-SAT.

JUNE, 1913

JUNE, 1913

6-8-Sun. 3rd after Trinity

Letters from Capt. Whitham & Capt. Lane.
Major Willard to dinner
Capt. Campbell ad. with Fleming.

7-9-MON.

Col. Giblin came over & had lunch.

Have had 2 letters & parcel from
Sergt. Armitage.

8-10-TUES.

9-11-WED.

10-12-THUR.

11-13-FRI.

12-14-SAT.

Sergeant came aboard
Letter from

13-15-Sun. 4th after Trinity

Letters from Shore.
Capt. Whitham now Major Whitham

14-16-MON.

15-17-TUES.

Left Gala Teke at 9.45 pm.

16-18-WED. Arrived Lemnos early am.
moved up into inner harbour
about 11 am.

17-19-THUR. Went beside 'Dewanba' & took
wounded on board.
Left at 6.30 pm. for Malta.
Newmarket in Andros for repairs.

18-20-FRI.

19-21-SAT.

JUNE, 1913

22-Sun. 5th after Trinity

Arrived Malta 10 am
Patients all off by 7 pm

23-MON.

Went ashore after breakfast
Shopped all day. Back in time
for dinner.

24-TUES. Midsummer Day

Arrived. Major Elliott on
board. Visited his ship & then he R.I.
Went ashore. Visited armory, St. John's,
& left & went for a drive. Major dined
with us & we all sat on boat deck after

25-WED.

Major E. called for us after breakfast.
We visited hospitals & shopped &
got back for lunch. He came over
after lunch & we moved back with him
Major left at 2.30 pm & we left
at 8.30 pm. Glorious evening. Sat on
boat deck.

26-THUR.

27-FRI.

28-SAT.

Arrived Lemnos 10 am. Moved
up into inner harbor. Sergt. Armitage transferred
yesterday to Prince Abbas. Left Lemnos at 10 pm
for Ayas. General Baptes & 3 Col. on board taking
passage with us.

JUNE-JULY, 1913

27-Sun. 6th after Trinity Communion service 7.30 am.

Arrived at 1.5 am.
Shore being heavily shelled. Wounded brought
on at 9.45 am. Capt Lane came on 11 pm. Sick
on night duty in A.C. 112.

28-

30-MON. Crowds of wounded coming
aboard. Very busy night.
5th & 4th Batts. Inf. suffered heavily.
Very heavy fighting at Hellen, warship there.

29-TUES. (JULY)

Not such a busy night.

30-

2-WED.

Crowded of wounded in during
night.

3-THUR.

Packed box for 12th before going
to bed. Letter & choc. brought me from
Sgt. A. at 5.30 pm.
Prince Abbas evidently near Ayas.

4-

4-FRI.

Crowds of wounded came on
in evening. Left for Dendros Harb. at
about 10.30 pm.
Col. Giblin came aboard & could not get
ashore so came onto Dendros with us.

5-

5-SAT.

Arrived dawn outside front door
Mudros. Came inside a little later &
up into inner harbor 2 pm. Capt Lane
left 11 to shore hop. at 5.30 pm.
Newly killed cases all inside with patients. Sgt.
Sgt. Brown, G. W. Reynolds, Robertson, etc.

JULY, 1913

4 ~~8~~ Sun. 7th after Trinity

A quiet day. Devan has painted white
came alongside at 4 pm.
'Prince Ables' supposed to be in Mudros.
Capt Veroc came aboard, & we were asleep.

5 ~~7~~ MON.

Left Mudros at 11:30 am. for Alex.
Went to bed early so did not see
the ships as we passed out of Mudros
A busy night.

6 ~~8~~ TUES.

Bu

7 ~~9~~ WED. Arrived Alex. 6 pm

8 ~~10~~ THUR. Unloaded patients &
got letters from Cooks.

9 ~~11~~ FRI. More letters. Went on
shore this morning. Visited
dentist. Lazy afternoon on
board. Sisters Sewley & 7 others joined

10 ~~12~~ SAT. Our ship & Red Cross & Colley are leaving
R.C. & Colley left this aft. Went ashore. Letter
from Emily, from your Maj. S. 1st from Engt.
Layed on deck all aft. Called her name
knowles in morning

JULY, 1913

11 ~~15~~ Sun. 8th after Trinity Communion Service

Left Alex. at 11 am. alt. Morning service
at 11 am
Wrote & printed photos most of day.
Fixed them in evening.

12 ~~14~~ MON.

Good breeze & fresh.

Evening - music & gramophone

13 ~~16~~ TUES.

Prepared ward. am. under harbour
Arrived at Mudros 8 pm. 'Granitully
Castle' arrived alt. 5 hr. afterwards. &
'Dongola' sailed out.

14 ~~16~~ WED. Prince Ables steamed in at 7:30 am
went up harbour. We left Mudros at
9 am. for Augae. Arrived Augae alt. 2:30 pm
As we arrived 'Saxon' steamed away.
Wounded came aboard alt. 4:30.

15 ~~17~~ THUR.

Wounded coming aboard

16 ~~18~~ FRI. Card from R. M. A. who
with rest of Section were put
ashore at 3 am.
Letters from Margo & Vardit

17 ~~19~~ SAT. Letter from Capt Lums
Sgt Radcliff came aboard

JULY, 1913

~~18~~ ²⁰ Sun. 9th after Trinity
Gen. Birdwood on board

~~19~~ ²¹ Mon. Letter from E.M.A.
Busy.
Sergt. Radcliff came aboard.

~~20~~ ²² TUES.

~~21~~ ²³ WED.

~~22~~ ²⁴ THUR. Went over to Dubrovnik
to get Gen. Hunter Westell
who is sick. 6 pm till 10.30 pm

~~23~~ ²⁵ FRI. Left Huzar at 6 pm
Somali relieved us. Letter from
Shore. Steaming slowly

~~24~~ ²⁶ SAT. Arrived Mudros. 6 am.

JULY—AUG., 1913

~~25~~ ²⁷ Sun. 10th after Trinity

Left Lemnos 5 pm.

~~26~~ ²⁸ MON.

~~27~~ ²⁹ TUES.

~~28~~ ³⁰ WED. Arrived Malta 7 am.
Patients off by 5 pm.
Went boating in evening

~~29~~ ³¹ THUR.
Shopping all morning.
Boating evening

~~30~~ ¹ FRI. (AUGUST) Scotch Quarter Day, Lammis

Left at 11 am. for Lemnos.
Laz day. Slept on deck.

~~31~~ ² SAT. Calm hot day.

AUGUST, 1913

1 ~~2~~ Sun. 11th after Trinity Had Communion Service
7.30 & Morning Service 11 am. Nice cool
breeze, sea rough.

Very windy night. Great gun on boat deck.

2 ~~4~~ MON. Bank Holiday. Scotch Bank Holiday

Arrived Lemnos 5 am. Went out in
launch. Meanwhile the Sicilia moved up
into inner harbor.

To stay here for a few days holiday.

3 ~~5~~ TUES.

Lazy day. A party went ashore.

4 ~~6~~ WED.

5 ~~7~~ THUR.

Orders to leave for Anzac 6.30 pm.

Started 8.30 pm but sent back as it was too
late to pass ^{date to pass here}

6 ~~8~~ FRI. Sailed for Anzac abt 4 am.

arrived 11.30 am. Gloucester Castle left 12.30

Wounded began to come aboard at 1 pm &

cable passing in steadily all day & night.

Great fighting on shore, & fresh landings made

7 ~~9~~ SAT. Left for Mudros at 6 am with 1000

patients aboard. Put off abt 3.5 & 4 hundred

deck cases on the Ascanio. Stayed all

night at Mudros.

AUGUST, 1913

8 ~~10~~ Sun. 12th after Trinity

Left Mudros for Anzac at breakfast time
& took on deck cases & filled up
with stretcher cases. Left for Mudros
at 9 pm

9 ~~11~~ MON. Arrived Mudros 6.45 am

Believe this ship is going on Suez-Bank
run which means we go off at Alex.

5 Letters from RMA & one from Major E.

10 ~~12~~ TUES. Left for Alex. at 5 am.

11 ~~13~~ WED.

12 ~~14~~ THUR. Arrived abt 10 am. in

outer harbor at Alex. Dined in

beside Wharf midday & began

unloading. Most of patients off by 9 pm

McTomley among stretcher bearers.

15 ~~17~~ FRI. Remainder of patients off

during morning. Went ashore

& got letters. Saw from Ches. last

dated 30 July. Passed to RMA several for

Wrote during afternoon. Time.

16 ~~18~~ SAT. Went ashore. Got registered

P.R. from Major E. photos of hospital.

Slept 11 hours - then wrote long

letter to Ches

AUGUST, 1913

15th Sun. 13th after Trinity

Transferred to Gravelly Castle.

Sister R. left & went on Devonian with Col. Rind. Moved alongside wharf.

16th MON.

Sister R. left Orders for England.

Moved alongside wharf. Went ashore. Sister R. left for Port Said. Prepared Ward. C. Ward is mine & 2 beds

17th TUES.

Patients came aboard. 340.

Left for Malta at 6.30.

50 patients in my ward.

18th WED.

Weather rough rather. Not seasick. All dressings done.

19th THUR.

Good day.

20th FRI.

Good day. Major B's birthday. Wrote to RMA & Mother

21st SAT.

My birthday. Arrived at Malta at 7 am. Took on a few walking & stretcher cases, put a few, & left for Gibraltar at 6 pm

AUGUST, 1913

22nd

24th Sun. 14th after Trinity

Weather pretty rough, strong head wind.

About 1 am. thrips began to fly about. Smash.

25th MON.

Very rough day. Everyone seasick. Very miserable

26th

26th TUES.

Calm day. Everybody well.

27th

27th WED.

Arrived Gibraltar 6.30 pm. Left for Southampton 9 pm.

28th

28th THUR.

Passed C. St. Vincent

29th

29th FRI.

30th

30th SAT.

29 ~~ST~~-Sun. 15th after Trinity

In English Channel.

30 ~~T~~-MON. (SEPTEMBER) Arrived Southampton at noon. All patients off by 4.30 pm. Left at immediately for London. Sent wire to Chas.31 ~~T~~-TUES. Arrived East India Docks at 5 pm. Chas. met me. Went to Fenchurch St. St. by train & by taxi to Kenilworth Hotel. Saw 'Peo o' my heart' at1 ~~3~~-WED. Met R. & S. Green at Nelson's monument. Shopped in morning. Called on Sir J. McCall. Met Maja Elliott & his sister. Dined with them at Strand Palace Hotel.2 ~~4~~-THUR. Went to Oxford with Chas. R went as far as Billford with us on her way to Cheltenham. Stayed at Visited several colleges including Corpus. Dined at the George.3 ~~5~~-FRI. Spend part of day at Oxford. Left for London by 4.30 train, arrived Kenilworth at 6.30. Visited Knips in evening. Chas. gave me a 2 Bronnie Kodak4 ~~6~~-SAT. Spend day with Chas. Looking round Chas. left by 8.30 pm train for Miffield. Returned to Clifton Hotel5 ~~7~~-Sun. 16th after Trinity

Went to St. Pauls morning service. Walked & busied during aft. to Embankment etc. Kennedy to Gardens.

6 ~~8~~-MON. Went into Town in morning. & shopped in aft. Miss Wilson joined our party at Clifton.7 ~~9~~-TUES.

Went to Grantully Castle for news. Telegram from Chas.

Chas. called 7.30 pm. and we went to Higham & then to Waterloo Station. Saw him V.P. Kodak

8 ~~10~~-WED. Left Clifton for 5 Brunswick Sq.

Went over Tower of London & to Queens Hall in evening. Zeppelin Raid over our lodgings. 'Zep. night'

9 ~~11~~-THUR. Letter from Chas. Went to Hyde Park & Tate Gallery. Packed home. Quinneys at Haymarket in evening.10 ~~12~~-FRI. Westminster Abbey & Commonwealth offices. Lunch at Regent Palace Hotel. National Gallery. Returned to Grantully at 9 pm. Chas. left for France11 ~~13~~-SAT. 200 V. Aids came on board to take passage to Alex. Left Q. Docks at 4.30 pm. at. Anchored off Gravesend 6 pm.

SEPTEMBER, 1913

SEPTEMBER, 1913

12 14-Sun. 17th after Trinity
H.C. Service

13 15-MON.

14 16-TUES.

Left The Thames abt. 4 am
Anchored off Goodwin Sands.
Left 11 am

15 17-WED.

16 18-THUR.

(Sonny admit, to Endell St.
(disp))

17 19-FRI.

18 20-SAT. Passed Gibraltar abt 9 pm

19 21-Sun. 18th after Trinity

20 22-MON.

Fancy Dress dinner.

21 23-TUES. Heavy tropical shower 9p
followed by rough weather.

22 24-WED. Rough all day.
Sports arranged but postponed

23 25-THUR. Still rough.

24 26-FRI. Calmer day.

25 27-SAT. Anchored in outer harbor
at Alexandria at 11.15 am.
& almost immediately drew in
besides wharf. Letter 1. Noe from
Rad's brother at Heliopolis all. RMA

SEPT.—OCT., 1913

26²⁸ Sun. 19th after Trinity

Went ashore during morning.

27²⁹ MON. Michaelmas Day

Left abt 9 am. for Mudros.

28³⁰ TUES. Saw German submarine about midday.
Concert on deck in evening.
Wireless S.O.S. recd. abt 9 pm.

29³¹ WED. (OCTOBER) Rumour that transport carrying wounded ^{threw overboard} ~~was to be lost~~ last night.

Arrived at Mudros about 8.30.

& moved at once up to inner harbor.
Gascon, Salla Maheno, & another all in gutter.

30² THUR. Took on abt 1000 sick patients. ^{Left.}
at 9 am. took 0750 med. Cases 2 at 11 am. 250 similar cases. Mostly dysentery & gonorrhea. Very dense fog came after sunset & lasted all night.

1³ FRI. Fog still pretty dense. Steamed to Mudros during morning. Took on 270 medical cases. Heard 3rd/4th Brig. at Mudros & 4th at Alex.

2⁴ SAT. Left about 11 am. for Mudros.

arrived Mudros abt 4 pm.
Recd. orders for Malta. Sir James instructed.

OCTOBER, 1913

3⁵ Sun. 20th after Trinity ^{Patients} ~~Post~~ ^{Put off abt.} ~~to Malta~~ ^{to Malta} ~~& Sergt R.M.A.~~
Left mudros at 10.30 am for Malta.

4⁶ MON.

Past Cape Matapan.

5⁷ TUES. Arrived at Malta 5.30 pm.
Berthed at Hamilton Quay, Grand Harbour. Saw Dry dock with T. Destroyer & submarine in.

6⁸ WED. Patients went ashore.
R & I went to Customs Landing place up in lift & into City Health Inquiry Office. P. Office (Postal to R.M.A.) Maj. E. Mrs. Magellan, Home. Visited Signi Hosp, San Augustesen of 3rd 7. Amb who told me R. & A. was ill & prob. in England.

7⁹ THUR. Picnic to Bergibuggia.
Heard Hill's death.
Left Malta 5.45 pm. for Lemnos.

8¹⁰ FRI. Wet morning. Had the Gramophone in morning.

9¹¹ SAT. (Gladys died)

OCTOBER, 1913

10 ~~12~~ Sun. 21st after Trinity

Arrived Lemnos 7.30 am.
Neuralgia, Uvari, Waldivia, + 2 funnelled
huff ship. all in outer harbor. Bongola,
Soudan, Somali + small French huff. ship
also came in. Then Neuralgia + Soudan went
going out. 11 ~~13~~ MON. Troopships full of men also
going out.

11 ~~13~~ Monday. Nevasa came in.
At anchor in outer harbor all day.

12 ~~14~~ TUES. Left Medros for Salonika
2.15 pm Steamed slowly.

13 ~~15~~ WED. Arrived Salonika 9.15 am
Anchored in harbor.

14 ~~16~~ THUR. Went ashore for part
of day. Posted to Mother, Chas,
Elefanti + Sonny. per Gen P.O.

15 ~~17~~ FRI. Patients coming on, 1
+ 2 a day.

Posted per Military P.O. to Mother
Chas, Sonny, Maja E. Majidane, Capt Marquett

16 ~~18~~ SAT.

OCTOBER, 1913

17 ~~19~~ Sun. 22nd after Trinity

news depressing re Serbia.

18 ~~20~~ MON. About 65 patients on
board now.

19 ~~21~~ TUES.

20 ~~22~~ WED. 30 stretcher cases to C. Ward.

21 ~~23~~ THUR. 19 walking cases to C. Ward.

22 ~~24~~ FRI. 15 walking cases to C.W.
Posted to Mother, Chas, + Sonny.
Recd. letter from Maj. E.

23 ~~25~~ SAT. Transport 'Marquette' torpedoed
Survivors brought to us at 9.30 am
14 Sisters J.F. among survivors. 10.30 pm

24th ~~26~~ Sun. 23rd after Trinity

Reported 99 casualties from
Marquette disaster. Arr. 700 on
board her. 10 Sisters missing today
25th ~~27~~ ²⁸ MON. 8 more came on from 'Canada'.

4 more Sisters from 'Canada' today
making 26 on board now.

16th ~~28~~ TUES.27th ~~29~~ WED. Sent some survivors
ashore.18th ~~30~~ THUR. Letter from Major E.29th ~~31~~ FRI. Left Salonika 3pm with
490 patients aboard.30th SAT. (NOVEMBER)

Arrived Mudros 8am. Left again
at 3pm for Alex.

31st Sun. 24th after Trinity

En voyage. Good trip

1st ~~2~~ MON. Arrived Alex. 3.30 pm.
Walking cases off.
Received letters, + Telegram re Gladys.

23rd ~~4~~ TUES. Sent wires to Chas. Mumpet
+ Huttons. + letters to Chas. +
Mumpet. Wrote to Chas. + Mumpet.
Got cases off by midday.

3rd ~~5~~ WED. Major Whitham came from
Cairo by 3pm train. He took us for
motor drive to Gardens, + we
dined after at the Savoy.

4th ~~6~~ THUR. Major W. came to dine on
board + also had Afr. tea. Then
we sent for motor drive + dined
at Savoy.

5th ~~7~~ FRI. Wrote diary to Chas. + Sonny. + letter to
Mumpet. Left Alex. 7.15 am. for
Mudros. completed new staff of
Med. Officers + orderlies.
L. K. King + Faber gone back to Cairo
+ Sister Lowell + Smith, Inf. Reserve. have
taken their places aboard here.

6th ~~8~~ SAT. Ironing. Ward work.

En voyage. Good trip.
Sir John Rogers aboard.

NOVEMBER, 1913

7. ~~Q~~ Sun. 25th after Trinity

Arrived Lemnos about 12.30 am
Glenart Castle, Kewallia, & Dunvegan Castle
in outer harbor. Communion Service 8 am.
Church service 6.30 pm. Printed some photos.

8 ~~10~~ MON. Posted several letters.

9 ~~11~~ TUES. Scotch Quarter Day, Martinmas

Fixed photographs.
Anniversary of 'Indem'.

10 ~~12~~ WED. Left Lemnos 6.30 am for
Salonika. Arrived about 8 pm
first inside boom.

11 ~~13~~ THUR. Sir J. Moved up near
'Carisbrook Castle'. 4 French hosp.
ships here. Sir J. R. left us &
some went ashore. Rowing.
Posted letters to mother & Charles.

12 ~~14~~ FRI. A quiet day.
very strong wind & water rough.

13 ~~15~~ SAT. Climbed hill at back of
Citadel. Lovely country. Most
enjoyable outing.
Orderlies concert.

NOVEMBER, 1913

14 ~~16~~ Sun. 26th after Trinity H. Communion.

Attempted to climb mountain at
to R. of City but found it too far
inland. Got back late to ship
about 7 pm. Very tired.

15 ~~17~~ MON. Rather stiff today.
Some Canadian Sisters (16) came on
to stay prior to going ashore to work

16 ~~18~~ TUES. Canadian Sisters went ashore
4 pm.

A small party of us went ashore
& visited shops which sell antiques.
Bought a dagger & a cup saucer.

17 ~~19~~ WED. Quiet day.

18 ~~20~~ THUR. 'Carisbrook C' left early am.
Patients (32) came on in aft. admitted
to A.B. & T.

19 ~~21~~ FRI.

20 ~~22~~ SAT.

NOVEMBER, 1913

NOV.—DEC., 1913

21 29-Sun. 27th after Trinity

22 24-MON.

23 25-TUES.

24 26-WED.

25 27-THUR.

26 28-FRI.

27 29-SAT. Snowy cold driving wind
no patients today

28 30-Sun. 1st in Advent

Snowing + a cold driving wind
large number of patients

29 31-MON. (DECEMBER)

freezing day. 20% of frost.

30 all beds full.
Cos. biathde

31 2-TUES. Left for Alexandria

1 3-WED.

2 4-THUR. Very warm day.

3 5-FRI. Arrived at Alex. 7 am
all patients off by lunch time.

Received mail from Cooks. 1 from Mother
+ Max + Mrs. D. 2 from W. + R. M. A. + D. A. L.
+ 1 from Chas. + 2 p. cs. beside them.

4 6-SAT. Went ashore + shopped.

Letter from Chas. + another from W.

5 ~~7~~ Sun. 2nd in Advent

Stayed on ship all day. Wrote letters.

6 ~~8~~ MON. Went ashore most of day.
Recd. letter from Chas.

Very depressed all day.

7 ~~9~~ TUES. Left at 5 pm. for Lemnos.

Depressed. Had letter + parcel from Major J.L.H.

8 ~~10~~ WED. Calm weather.

9 ~~11~~ THUR. Steaming slowly. Wrote letters.

10 ~~12~~ FRI. Arrived 7.30 am. at Mudros. Bongola arrived just behind us. Recd. orders for Anzac. & left Mudros abt. 11 am. Arrived Anzac 4 pm. Took on 300 patients at 6 pm. & another 300 at 11 pm.

11 ~~13~~ SAT. Left Anzac 5 am & arrived Mudros 9 am. Put off 100 Gurkhas. Left for Alex. at 3 pm. Heard that R.M.A. is back on Gallipoli. 'Quack' at Lemnos.

12 ~~14~~ Sun. 3rd in Advent

My patients perfect pets. Australians mostly.

13 ~~15~~ MON.

Steaming slowly.

14 ~~16~~ TUES. Arrived Alex. 7 am. Unloaded by 4⁵⁵ L.H.F. Amb. all patients off by midday. Letters recd. from Mrs D.L. Mrs Dav. 1 from Chas. 2 from R.M.A. (one in answer & diary posted at Alex.)

15 ~~17~~ WED. Went ashore & shopped.

16 ~~18~~ THUR. Went ashore. Letter & P.Cs. from Chas. 1 also from Rust.

17 ~~19~~ FRI. Left at midday for Mudros. Fair weather.

18 ~~20~~ SAT. Fair weather. Feeling very depressed about Chas.

19 ~~21~~ Sun. 4th in Advent

Arrived Lemnos 4 p.m.
Depressed about Chas.

20 ~~22~~ MON. Very rough day & night.

Moved anchorage. Almost
bumped Delta.

Visitors (W.A. Officers) came aboard.
Striped the midget. My box rifled.

21 ~~23~~ TUES.

Rough day & evening.
Two ships collided.

22 ~~24~~ WED.

Very depressed.

General White came to dinner &
stayed the night.

23 ~~25~~ THUR. ^{Col. Bird went on to Delta, called}
^{for Capt. S. House Bank Holiday.} ~~Chas. birthday.~~ Major Whittem
& Major Rogers came to see us.

24 ~~26~~ FRI. Bank Holiday

Quiet day.

Orderlies sang carols in evening.

25 ~~27~~ SAT. Christmas Day. Weather good.

Fair day. H.C. at 8 a.m. Church
Service 11 a.m.

Lunch. Some dinner. Merry
even. on part of B.D.

26

28 Sun. 1st after Christmas

Quiet day morning.
Majors Elliott & Whittem, Capt. Margatto
& Mullins called for about half an hour
this afternoon. Had aft. tea.

27

29 MON.

no excitement

28

30 TUES.

no excitement.

Printed snap.

29

31 WED.

Weighed anchor 11 p.m. & left
for Cape Helles. Beautiful morning.
Arrived Helles at 4 p.m. Shells active.
Patients 102 came on at 6 p.m.
6 to C.W.

30

1 THUR.

(JANUARY, 1914) Scotch Bank Holiday. New Year's Day
Three lighters of Patients. My ward
half full. almost full up

31

2 FRI.

Left for Mudros. at 5 a.m.

Dense fog. Arrived 10 a.m.

26 Aust. patients 4 p.m. to C.W.D.

Very pleased. Full up.

Britannia came in 4:30 p.m. ^{New Year's Eve.}

1

3 SAT.

Left 7-30 a.m. for Alex.

Rolling a bit

24 Sun. 2nd after Christmas

Fair trip. My patients all perfect darlings.

38 MON. Arrived Alex 10 am. Walking cases went off just before lunch & cot cases after lunch. Recd. 2 letters from Chas. Molter & 1 from Dr. Rothman. 0 Telegrams from Mrs. S. S. S. 48 TUES. Epiphany

Recd. 1 letter from R.M.A. posted in Alex. Came from Ind. in 'Bonnie'. Went a drive with Miss Fawcett. Janet out with D. Maxwell.

57 WED. Went up to Cairo. R. Saw her brother. I got paybooks fixed up. Saw Tolson & Shepherd. Ret. to Alex. 10 30. 2 Mrs. O. & 2 Sisters to meet us.

68 THUR. 12th training at Alex. Saw Major Lane on pier. Off to Tel-el-Kebir.

75 FRI. Left 7 am for Mudros. 10 Clergymen aboard, also Sister Veit going to Mudros to see her brother who is sick. Rough day. All ill more or less. 840 SAT. Weather slightly improved

974 Sun. 1st after Epiphany H.C. Arrived Port Mudros 10 30 am. Arrived from ships. Began M. J. Society.

10 MON. Sister Veit went ashore.

11 TUES. Olympic came in. Developed films all day. Heard of the evacuation of Cape Helles with 10 casualties. Wrote R.M.A. A lovely day. Letter from C.H. & J.W.

12 WED. Printed snaps am. Fixed them after dinner lunch.

13 THUR. Cold windy day.

14 FRI. 'Mauritania' came in at sunset. Printed snaps, nice day.

15 SAT. Cold, wild, stormy, wet day.

17th 18-Sun. 2nd after Epiphany H.C. + Church
parade in Lounge.

17th 19-MON. Chief Officer fell + broke
his nose on focastle head.
Recd. orders to take on patients
tomorrow.

18th 20-TUES. Took on 420 patients +
left for Malta at 4.30 pm.
Weather very good.

19th 21-WED. Calm day.

20th 22-THUR. Passed Cape Matapan.
Very calm day. Steaming slowly.

21st 23-FRI. Arrived at Malta 8 am.
Patients off by 1 pm. Cameras seized
by military authorities. Went over
E.I. Submarine. Price of Wales in dry dock

22nd 24-SAT. Stayed on board all day.
Read 'Shep. of Kingdom come'.
Films + Malta prints demanded +
given up. Moved round to Quarantine
Hart.

23rd 25-Sun. 3rd after Epiphany

Read 'Idols'. Went drive to
St Pauls Bay with Mr Phelps Love, +
Sir Gregg. Entered Church built on spot
where St Paul first preached after being
wrecked on Malta.

24th 26-MON.

Calm, very. Steaming slowly.
Went shopping in morning.
Reading Mark Twains Tom Sawyer

25th 27-TUES. moved round to Grand Harb.
Loaded with convalescents
+ left for Naples at 1.15 pm
Sicily in the distance.

26th 28-WED. Passed Mt Stina 7.30 am.
Entered St. of Messina 9 am.
Passing Stromboli early afternoon.
Steaming very slowly. Beautiful
Sunset.

27th 29-THUR. Arrived Naples 9 am.
Foggy. Britannia in. Unloaded
patients after lunch on to 'Brit'.
Recd. orders for mudros. Orders
cancelled later.

28th 30-FRI. Left Granly at 9 am. Went to Pompei.
Ret. to ship 1 pm. Met Mrs. Sisters from
'Formosa' at Hotel Pompei. In afternoon
visited Museum. Talked about
Naples. Ret. to ship 6 pm.

29th 31-SAT. To leave during morning.
Sister Grigor + I went to Museum
+ St. Elmo in aft.
To La Tosca in evening + balled
arrived back about 10 pm.

FEBRUARY, 1914

30-Sun. (FEBRUARY) 4th after Epiphany H.C. 4

Church parade.

Stayed on board all day.

Reading 'The Old Dominion' by Mary Johnston.

31-2-MON. Scotch Quarter Day, Candlemas

Went ashore intending to go to Solihull but met Purser who had urgent orders.

Ret. to ship after motoring to Aquarium. Left Naples for Malta at 12.30 pm.

Beautiful view of Naples as we steamed out.

1-8-TUES. Formosa following us.

Passed through Str. of Messina during morning. 'Granaty' rolling some in aft. evening. Not feeling very happy.

2-4-WED. Arrived ^{outside} Malta 8 am. Entered Grand Harb. at 9 am. & tied up near entrance. 'Formosa' went in to wharf.

3-5-THUR.

Went ashore in morning. Very rough.

4-6-FRI. Recd. summons. Tried at Court. Fined £4. very amusing. Began silk undershirt in aft. Recd. of Clas. getting Military Cross in weekly Times of Jan 28.

5-7-SAT. Shopped during morning. Took on patients at Hamilton. In afternoon, left about 5 pm for Naples. On night duty for 12 hours. 'Formosa' left at 11 pm.

FEBRUARY, 1914

6-8-Sun. Septuagesima

Passed through Str. of Messina.

7-9-MON. Arrived Naples early about 8 am. Beautiful dawn. Went ashore & shopped. Aquilania arrived. Formosa & Panama here.

8-10-TUES. ~~Formosa~~ Aquilania coaling.

9-11-WED. Neuralgia arrived. Patients transferred to Aquilania. Shopped ashore. &c

10-12-THUR. Left at 3 pm. for Malta. Vesuvius looking very fine.

11-13-FRI. Passed through Straits of Messina. Weather fine, scenery just beautiful.

12-14-SAT. Arrived Malta in Sluice. Starton, near Formosa. Went ashore aft. to get Camera, got films but not camera. Had letters from Brick & Corra.

13 15-Sun. Sexagesima H. Com. at 8 am. &
Church service at 9.30 am. Went out
rowing & played quoits.
Went a walk with Sister Inigo.
& watched St. Paul's parade after.

14 16-MON.
Went on shore & shopped
with Janet.
Posted letters to Rhia, Chas,
Mottu, Inigo E.

15 17-TUES.
Went to Citta Vecchia, saw
St Paul's cave & church, & Cathedral
& Catacombs.
with Sister Inigo

16 18-WED. Went a picnic to Dingy.
On return heard we had
orders for England.
Recd. 2 letters from Chas. & 1 from
Col. Simlette

17 19-THUR.

18 20-FRI.

19 21-SAT. Shopped in am.

20 22-Sun. Quinquagesima H. C.
Packed up utensils of Ward in
morning. Played quoits & sewed
in afternoon.

21 23-MON. Left Malta 1 pm. for
England. Fine bright day.
Sea smooth.
Cargo. 137 Private Nurses & Reserve
Sisters. 4 Officers.

22 24-TUES.

23 25-WED. Ash Wednesday
Had Match Quirrs Canada vs Aust.
We won.
Canadian Sisters very nice.

24 26-THUR. Sports on deck. Wpm
Potato & spoon race, & ring quoit comp.

25 27-FRI. At Gibraltar from 9 till 10 am.
Continued our trip round C. Trafalgar
& C. St Vincent. Ship pitching.

26 28-SAT. Ship pitching considerably.
Good day.

MARCH, 1914

27 1-Sun. (MARCH) 1st in Lent

Fairly Smooth. Cold

28 2-MON.

29 3-TUES. Very cold day

1 4-WED. Arrived Southampton.
Gaston there too. Sisters off by 4 p.m.
Went up town for walk.
C.H.E. now St. Col. from date.

2 5-THUR. Went up to London by 11 am.
Train arrived 12.30. Drove to Enniskillen.
In aft. went to Ans. Bank, no letters, &
Sir John McCall.

3 6-FRI. Went to Com. Nighting Place. Saw
Col. Siblin & Mrs White. Drew some pay.
Visited Highley in aft. & there oh joy!
met Chas. Stayed the evening.
~~Nettie White~~ Margaret left for Bognor

4 7-SAT. Chas called for me 10.30 am &
we did. 7 am. Lunched at Regent P. Hotel.
Saw Mr. Haughton. Chas left by 2.10 pm
for Salisbury Plain (Larkhill).
For Emma Sch. 7.00. Janet & I went
to Lady Doyle with Col. Siblin

MARCH, 1914

5 8-Sun. 2nd in Lent Chas. appeared at
Breakfast to my great surprise.
Had him all day. Walked in Hyde
Park am. Stayed in rest of day. Seeing
Saw him off by 7.0 pm train. Wrote letters

6 9-MON. Janet left for Cheltenham.
Doris for Bognor & Addie to relatives.
Saw Janet off, called on Mrs White (out).
Went out to Highley in aft. Snowing hard.

7 10-TUES. Looked round shops am. Bought
shoes. Snowing. Called at Bank for letters
in afternoon & got a lovely lot. Called on
Mrs White. Wrote letters in evening.
Mum's birthday.

8 11-WED. Shopped with Margaret at
Whitley's Bognor. Wrote letters
in evening.

9 12-THUR. Met Deacon & Capt. Berce
had lunch with them. Sent £15.
home as remittance. Met Margaret &
shopped. Chas. arrived back from Larkhill
10.30 pm. Went to Bognor. Bognor & Bognor.

10 13-FRI. Breakfast 10 am. with Chas & Capt.
Nixon. Talked in lounge till 12 noon. Lunch
in Town. Chas had business here to
Somer Deacon. Then we had Tea with Chas. &
Regent Palace. Theatre in Evening. Revue Brick Bay

11 14-SAT. Had photo taken. Chas. went
to Buckingham Palace & received
by Cross. Went to some Pictures. & after
dinner Chas. Miss Mabel & I went to
Salisbury Theatre till Lady Doyle.

12¹⁵-Sun. 3rd in Lent Chas. returned to France per 3.10 train from Charing Cross. I took snaps of him & the cousins about 1 pm. Spent the aft. after Chas. went with kids. Wrote letters evening.

13¹⁶-MON. Janet & her sister came from Cheltenham. Got proofs of photo. & very good. Did a little shopping. Recd. message to return to ship tomorrow.

14¹⁷-TUES. St. Patrick's Day. Bank Holiday, Ireland

Went to Highbury morning. Left Waterloo Station for Southampton 2.55 train. Rad. Powell & I travelled down together. Arrived at Ship at 6 pm. New O.C. Capt Ross.

15¹⁸-WED. Four new sisters on staff. Went up town in aft. Had tea with Mr. Hammond.

16¹⁹-THUR. Sailed from Southampton about 3.15. Some Aus. Medics on board as Passengers

17²⁰-FRI. Rough day. All feeling ill. Missed my dinner.

18²¹-SAT. A little better day. All feeling a little better.

19²²-Sun. 4th in Lent

20²³-MON. Passed Gibraltar 9.30 pm.

21²⁴-TUES.

22²⁵-WED. Lady Day

23²⁶-THUR.

24²⁷-FRI. Worked in ward all morning. Passed Malta 4 am. Gaslight printing with Capt Beard & the Smith all afternoon.

25²⁸-SAT. Played quills in aft. Worked in ward all morning. Concert on deck in evening.

26

29—Sun. Passion Sunday

Passed Braemar Castle carrying
No. 2. Ans. Gen. Hosp. about 9 pm.

27²⁰—MON. Arrived Alex. 8 am.

Went ashore in aft. Passengers
all off 3 pm. Went to Miss O'Neil.
Got 2 letters.

28²¹—TUES.

Went to Cairo per 12 noon
train. Saw Miss Conyers, got dress
allowance. Had Lemon Squashes at
Sheppard's with Col. Bean, Major Black,
Capt. Stacey, Beard, & Padre Dwyer & Lt. Smith.
Returned to Alex per 6.30 train, arriving 10 pm.

29²²—WED. (APRIL)

(Got very down in dumps) after leaving Cairo. Expect dear
(Harold) was inconsolable.

Met Baudinet in Alex. brought her to dinner
on ship. She is off with No. 2. A. S. H. on Delta.

30²³—THUR. Met Major Crowther & Baudinet
Had morning tea at Sroppies.

In aft. had two teeth stopped by Dr. Douglas
then fitted for dress.

31²⁴—FRI.1²⁵—SAT. Met Coffey. Got new dress.

2

8—Sun. Palm Sunday

3

8—MON. Recd. orders to return to
Cairo tomorrow.

4

7—TUES. Left Grantully Castle

Left Alex. by 12 midday train for
Cairo. Arrived 3 pm. Went to
No. 3. A. S. H. (per ambulance) at
abbassia. Saw Hattie Burbury & Thompson.

5

8—WED. Went into Town am. Lunch at
Club. Called back then to go to
Luna park. Began duties about
4 pm. All convalescent patients.
awful place.

6

8—THUR. Worked until 1 pm. Half
day off. Shopped & had tea
at Cliff's.
Writing letters every opportunity

7

10—FRI. Good Friday. Scotch Bank Holiday.
Worked all day.

Saw Skinner. Recd. 2 letters.

8

11—SAT. Had half day off.

9 ~~10~~ Sun. Easter Day

10 ~~10~~ MON. Bank Holiday. Easter Monday

11 ~~14~~ TUES.

12 ~~15~~ WED. ^{Noted} ~~Barage~~ Barage in
aft. with Lt. A. Matwele &
Lt. Anderson.

13 ~~16~~ THUR.

14 ~~17~~ FRI. Day off.

15 ~~18~~ SAT.

16 ~~19~~ Sun. 1st after Easter. Low Sunday

Day off. Picnic to Barage with
St. Ralph, Lt. Anderson, Maxwell
& others. Orchestral concert in evening
at Nurses Club.

17 ~~20~~ MON. On duty

18 ~~21~~ TUES. Half day. Had bonza
nota d'ice to Helovian by
moonlight.

19 ~~22~~ WED. On duty. a
Mr. Reid (Snell) of 29 Bath. called
& see us at Limer Park

20 ~~23~~ THUR. St. George's Day aft. off.

21 ~~24~~ FRI.

22 ~~25~~ SAT. aft. off.

23²⁸—Sun. 2nd after Easter

Major Lane called at Lane
Park to see us.
also met Dr. Under.

24²⁷—MON. Day off. Spent it with
Major Lane. Went to Barrage.
The Egyptian Holiday.

25²⁸—TUES. Auzac day.

26²⁹—WED. Day day

27³⁰—THUR.

28³¹—FRI. (MAY) half day.

29¹—SAT.

30³—Sun. 3rd after Easter

Day off. Went shopping Breakfast
at Pyramides
Dine in afternoon & Church in
evening

1⁴—MON. Scotch Bank Holiday

2⁵—TUES. Maj. Dr. Under had tea
at Club with me.

3⁶—WED. Had tea with Capt. W-ET
Beard at Continental!
M. Lane had tea with me
at Club in evening

4⁷—THUR. Day off.

5⁸—FRI. Had drive by motor to
Belouan with Lt. Lane &
Campbell of 47th Bn.

6⁹—SAT. Day off.

7-10-Sun. 4th after Easter

8-11-MON. Day off. Had tea at Club with Capt McLeod & then dined at Cliffords with him.

9-12-TUES.

10-13-WED.

11-14-THUR.

12-15-FRI. Scotch Quarter Day, Whitsun

13-16-SAT.

14-17-Sun. Rogation Sunday Day off. Very hot.

Went for motor drive to Rena with Mr Campbell & F. Lane. Church afterwards.

15-18-MON.

16-19-TUES. aft off.

17-20-WED.

18-21-THUR. Ascension Day aft. off.

19-22-FRI. Went for motor drive to Matheria after 9pm

20-23-SAT. aft. off. Mr C. & L. returned to their units.

21st 24-Sun. Sunday after Ascension. Empire Day

22nd 25-MON. Day off. Tea with Sgt.
Frankcomb & Port. Pasick.
Saw Waus. now Cpl. with
Howitzer Batt. of 4th Div.

23 26-TUES.

24 27-WED.

25 28-THUR.

26 29-FRI. met Jack Long. also
Major Lewis of 3rd L.H.

27 30-SAT.

28 31-Sun. Whit Sunday

29 1-MON. (JUNE) Whit Monday

30 2-TUES.

31 3-WED.

1 4-THUR. Day off. Spent at
Club.

2 5-FRI.

3 6-SAT.

47-Sun. Trinity Sunday

8-MON.

8-TUES.

10-WED. Day off. Sent parcel to Mumpet Jeff. Ans. Post off. M. H. Heard. J. Ross of Hampshire with R. J. on board & Staff.

11-THUR. Cpl. Nicholas called to see Radcliff.

Rumour of ass. of R. of England. not confirmed

12-FRI. Mr. Tyers off Staff. On duty in charge during absence of Mather.

13-SAT.

14-Sun. 1st after Trinity. Mather's day off, so stayed on duty all day. R. out with H. Nicholas.

15-MON. just 12 miles since I saw R. M. A.

16-TUES. Day off.

17-WED.

18-THUR.

19-FRI.

20-SAT.

JUNE, 1914

18²¹-Sun. 2nd after Trinity

19²²-MON. Day off.

20²³-TUES.

21²⁴-WED. Midsummer Day

22²⁵-THUR.

Home letters

23²⁶-FRI. Patients went per Star for Port of Sydney.
Sent parcel to Mr. Armistage per Williams of Bourne, & one to Mother per Bull of Hobart.

24²⁷-SAT. Heard 25 Choc. Sisters to go to Eng.

JUNE—JULY, 1914

25²⁸-Sun. 3rd after Trinity Day off.

26²⁹-MON. Interviewed by Miss Wilson who told me she was leaving me at Luna in place of Miss Graham.

27³⁰-TUES. Miss Graham left Luna. Is to go to England in charge of 25 Sisters. Off duty aft.

28³¹-WED. (JULY) Act. Matron of No. 1 Aux. Hosp. Luna Park from today. Went for mosquito expedition. Letter from Chas.

29³²-THUR. Letter from Major C. H. E. Dined at Continental with Major Clogston (R. & J.)

30³³-FRI. List read for Karoola.

1⁴-SAT.

5th Sun. 4th after Trinity
Day off. Sweet day. Church in evening.

3rd 6-MON. List of names for England put up. Sidg. Radcliffe + wife. Among number. Great excitement!!! Saw Capt. Heleard who is leaving tomorrow for Australia.

4th 7-TUES. Karoola left for Aust. 393 patients left.
Went into Cairo + shopped

5th 8-WED. (YUL) .03W
Rolling a bit. Fine sunny.

6th 9-THUR. List ^{patients} read out for Karoo. Letters from Sonny + Home. Dinner with M. Os of L. Park.

7th 10-FRI. Left Cairo by 9.30 am train. Went on board 'Safakia' at 1.15 p.m. + sailed for England at 6 pm. Beautiful night. Fresh sea breeze all sleeping in ward. 50 beds.

8th 11-SAT. A beautiful day. Lovely breeze. All well.

9th 12-Sun. 5th after Trinity H.C. at 7.10 am. Church parade on Port deck at 10.30 am. Wrote letters + slept on deck + walked in evening.

10th 13-MON. Very calm day. Sew + read most of day. All the Sisters very nice + made a happy family. Very close + hot in ward all night. Passed Malta 4.30 pm. on South side.

11th 14-TUES. Coast of Africa in sight most of day. Wrote letters.

12th 15-WED. No land visible. Rolling a bit. Fine sunny.

13th 16-THUR. Calmer. lovely day. Wrote letters.

14th 17-FRI. Passed Gibraltar 7 to 7.30 am. Sunny morning, everything looking fine.

15th 18-SAT. Good day. Wind rising in evening.

JULY, 1914

- 16th Sun. 6th after Trinity Entered Bay of Biscay about 10 am. Strong head wind. Spray breaking over ship's bow. Pitching but not rolling much. All pretty well. Enjoying trip very much.
- 17th 20-MON. Much colder, but cold & foggy.

18th 21-TUES. Arrived Southampton 9:30 pm. English clocks, hr. fast. Prepared to disembark but only patients went off. Sister Disposal of Sisters arranged.

19th 22-WED. We all departed to different Hospital. R & I came up with 15 others to London, saw Miss Conyers & Mr White at Harefield Rd & were sent to Harefield Park Hosp. Staff.

20th 23-THUR. Started duty Harefield park in 32 ward.

21st 24-FRI. In charge of ward 32.

22nd 25-SAT.

JULY-AUG., 1914

23rd 26-Sun. 7th after Trinity Capt Hargett killed in the evening at Pozieres by a shell.

24th 27-MON.

25th 28-TUES. Day off. Went to London. Had letters. Chas. in hosp. at Torquay Devon. (Stoodley Knowle Hosp. for Officers) Wounded in foot. Cousin Hattie moved to Newington h.

26th 29-WED. Sent wire to Chas. & Fred. & others. More letters.

27th 30-THUR.

28th 31-FRI. Wired to Mother re Chas.

29th 1-SAT. (AUGUST) Scotch Quarter Day, Lammas

30th Sun. 8th after Trinity

Letter from Col. Elliott telling
of Capt. Margett's being killed.

Day off from office. Visited Conain Hall.

31st MON. Bank Holiday. Scotch Bank Holiday1st 4 TUES.2nd 5 WED.3rd 6 THUR.4th 7 FRI.5th 8 SAT. Home letters.

Miss Kellett left for Southall

6th 9 Sun. 9th after Trinity

Chas. at Regent Palace Hotel.

7th 10 MON. Day off. Met Chas. & spent
day with him. went to Kew Gardens.
R.D. went to see Miss Conyers - not
a good reception. Chas. looking well,
but pretty lame.

8th 11 TUES.9th 12 WED.

10th 13 THUR. Motored to Southall with
Miss Kellett. Lovely place.

11th 14 FRI. Asked for a few days
leave.

12th 15 SAT. Told could have 3 days but
not nights away. Refused it.
Very upset & indignant.

13th Sun. ^{10th after Trinity} Letters from CHC + B & L.
Day off. met Chas. who is still
at R.P.H. Went to Hendon flying
grounds with him. Told him my
tale of woe. arranged to meet him next
Monday.

14th 17-MON. Refused few days leave.
applied for furlough.

15th 18-TUES. Given furlough a fortnight
from tomorrow. Hurrah. Told mother.
Left Warefield by evening train &
went to R.P.H. full, so stayed night at
Granhol.

16th 19-WED. moved to R.P.H. Went to 'Look
who's home'. With Chas.

17th 20-THUR. Went to 'Colliseum' ^{about 8 p.m.}

18th 21-FRI. Went to Mrs. Manbatten.

19th 22-SAT. Left Ruston at 8.30. arrived
Holyhead 2 p.m. Crossed to Kingston. &
arrived Dublin about 6 p.m. Looked
round Dublin in evening.

20th 23-Sun. 11th after Trinity
Spent day in Dublin. Visited Phoenix
Park Am. & Kingston Parade aft.
Saw where the rebellion in '48 had
taken place.

21st 24-MON. Left Dublin early am &
arrived Killarney 3.15 p.m. Staying
at Globe Hotel.
Recd. letters posted on by Rad.
— My birthday. —

22nd 25-TUES. Weather not too good. Went
drive through Buckross Estate to
Middle Lake & back by boat. Visited
Colleen Bawn, rock & caves, & some ruins,
Rear Castle. Chas. wearing slipper
wired to mother re furlough together.

23rd 26-WED. Chas. wearing shoe. Raining
all morning. Hire drive through
the Lord of Kilmare's Estate.
Walked to Killarney House, burnt 5 years
previously. Took snaps.

24th 27-THUR. Trip through Gap of Dunloe.
Visited Kate Kearney's Cottage. Drove 8
miles, then rode ponies for 6 miles
across mountain pass. Hired pun boat.
Rained hard most of time.

25th 28-FRI. Left Killarney 3 p.m.
Arrived Dublin 8 p.m.
Stayed for night at Napier Hotel.

26th 29-SAT. Retained Left Dublin 7.45
7.45 train to Kingston & then boat to
Holyhead & back to London; at R.P.H.
A quiet evening.

27⁸⁰—Sun. 12th after Trinity

a. quiet day with Chas. Wet.
wrote letters.

28⁸¹—MON. Went to Sir J. McCall's for letters.

Recd. one from Col. Elliott & 1 from Sgt. A.
Went to Some Pictures in aft. & to
'High Jinks' in evening.
Talk with Chas. after supper.

29⁸²—TUES. (SEPTEMBER) Returned from furlough
per evening train. Chas. & Elsie came to
Paddington with me.
Went to see Charley Chaplin on Picture.

30⁸³—WED. Motored to St. Albans in evening
with Rod & Sisters Hill & Wakeford.
Saw Sisters Heath & O.B. Walker!

Ch

31⁸⁴—THUR. Wrote to Col. Elliott & posted it.

1⁸⁵—FRI. Letter from C.H.E.

2⁸⁶—SAT.3⁸⁷—Sun. 13th after Trinity

Jepp. brought down h. of
London.

4⁸⁸—MON. Day off. Spent it with Chas.
while R. was with her sister.

C.H.E. in England. (Major Lewis & Sister)
Jepp married.

5⁸⁹—TUES. C.H.E. came to Harefield. R. & I
entertained him in our wards & had
tea at Canteen. Walked to station
with him in evening.

6⁹⁰—WED. Chas! board. Given
3 wks. longer.

7⁹¹—THUR. C.H.E. came out with Car.
Took me to Windsor for drive in
afternoon.

8⁹²—FRI.

9⁹³—SAT. Day off. Changed with another
sister. C.H.E., his sister, Mrs. Aspinall called
on me at 11 am. with car, drove in for Chas.
Lunched at R.P.H. (Col. Butler too) & went to
Hampden Court in aft. Dined at R.P.H. & C.H.E., Miss E.
& Chas. came to station with me.

10th ~~18~~ Sun. 14th after Trinity

C.H.E. returned to France.

11th 14-MON.

12th 15-TUES.

13th 16-WED.

14th 17-THUR. Chas came out to see me.

15th 18-FRI.

16th 19-SAT. Cicely Radcliff came to Harefield to work.

17th 20-Sun. 15th after Trinity

Miss R. began duties.

18th

21-MON.

Day off. Met Chas. had lunch. Maj. Rafferty at R.P.H. after lunch met him. Letter from all went to Wat works. C.H.E. Dined with F Green in evening.

19th

22-TUES.

20th

23-WED.

21st

24-THUR.

Chas. came out to see me.

22nd

25-FRI.

23rd

26-SAT.

24-27-Sun. 16th after Trinity Day Off
Dentist in morning at Rth. Kensington
with Chas. for rest of day. R. with us.
Lunched, & then went to Richmond.
Had good talk with Chas in evening.

25-28-MON.

26-29-TUES. Michaelmas Day

St. Col. Whittham in London. Coming out
see us tomorrow.

27-30-WED. Visit from Chas & Col.
Whittham. Heard

28-1-THUR. (OCTOBER) Heard that Major
Lane is now Lt. Col. (temp.)

29-2-FRI. Final board for Chas.

30-3-SAT.

1-4-Sun. 17th after Trinity

Recd. Birthday cake from Mother.
Zep. brought down near St. Albans.

5-8-MON. Day Off. Met Chas. at R.P.H. Saw Frank
Green, Major Benjafield. Shopped in aft. Had
tea at Allan's with Janet & Chas. & Chas.
Dined at the Piccadilly Hotel with Col. Whit-
tham & H. Smith (just back from Am.) Capt. Bodden
& leaving for France) & Chas. & Janet (6 Tanning)

6-8-TUES.

7-10-WED. Chas. came out to see me this
aft.

8-11-THUR.

9-12-FRI.

10-13-SAT. No. 3. A.S. H. at Kitchener's
Hop. Brighton

8¹¹ Sun. 18th after Trinity Day off.
Spent with Chas.

went to Hampstead Heath in
afternoon

9¹² MON.

*

10¹³ TUES. Chas. came out to see me
to report at Norwich tomorrow.
Duncan Maxwell came to see Janet.

11¹⁴ WED. Chas. reported at Norwich.

12¹⁵ THUR. Letter from R M A. telling
me he is at Oxford with Officers
Cadet Training Corps.

13¹⁶ FRI.

14¹⁷ SAT.

15¹⁸ Sun. 19th after Trinity
Letter from C H E. & A L. + Chas.

16¹⁹ MON. Day off. Spent most of it
at dentist's. Had tea with
Janet, Duncan Maxwell.

17²⁰ TUES.

18²¹ WED.

19²² THUR. Map. arrived in England

20²³ FRI. 2 years today since
we left Hobart in the 'Geelong'.
Wire from Map. to say he'd arrived
day before. at Salisbury.

21²⁴ SAT.

22nd Sun. 20th after Trinity Day Off. Met Chas. who had week end. Went to dentist for 5 sh. had lunch then went a walk to 'Saw Geaves'. Had dinner at Hotel Cecil with Chas. Col Whitman. & Janet.

23rd Mon.

24th Tues.

25th Wed.

26th Thur.

27th Fri. Telephone message from May who is on his way to Scotland on furlough.

28th Sat.

29th Sun. (NOVEMBER) 21st after Trinity

30th Mon. Day Off. Went to dentist. Met Padre Richards, Capt Ryson, Capt. Bunt, Admiral Green, as my 12th boy. & Col Whitman. Lunched with Ad. Green at the 'Windsor'. Also met Mr. Aspinall of Southall.

31st Tues. Chas. came out to see me

1st Wed. Were told 5pm we ^{are} were to go to Brighton.

2nd Thur. Left Harefield Park for No. 3. A.G.H. Brighton at 1.15 pm.

Arthur Macfarrick met Rod at Paddington.

3rd Fri. On duty. It is to relieve Sister Crossley going on furlough.

4th Sat. returned to France

5th Sat.

5-8-Sun. 22nd after Trinity
In charge P. H.

6-9-MON. Chas. moved from Woodwich
to Hertel & Empstead.

7-10-TUES.

8-11-WED. Scotch Quarter Day, Martinmas

9-12-THUR.

10-13-FRI. Went to London. Rad met
Miss Nicholas. I met Chas.
Finished with dentist.

11-14-SAT. Charlie passed fit by
Med. Board.

12-15-Sun. 23rd after Trinity

Baudinet called to see us.
She is in sick sisters!

13-16-MON.

14-17-TUES. Rad's day off. She went
to London.
I went out with Baudinet in
afternoon.

15-18-WED. Went to Nottingham in
af.

16-19-THUR. Went to Nottingham
with Rad. & Baudinet in
afternoon.

17-20-FRI. Charlie's 9ped. For a leave
starts from today. To have 7 days

18-21-SAT. Spent it in London with
Chas. May couldn't come to.
owing to shifting camp. Saw
Keith Elton & the Chas. were
pleased to meet again.

19-22-Sun. 24th after Trinity

Chas. spent day with Keith & Ethel.

on duty all day.

20-28-MON.

Chas. came to Brighton my 1/2 day off. Chas. called 2 pm for me & we then had tea at the Savoy Restaurant, then a walk & an orchestral concert on West Pier, then a walk & dinner at the Cairo, then to the Comedy, The Huddell's.

21-24-TUES.

on duty. Chas. amusing himself by looking round Brighton.

22-25-WED.

Day off. Chas. & I went to Devil's Dyke in the morning. Glorious weather. Came back into town by 3 pm. Chas. bought me a ring & gave him a pipe. Picture show. Then Chas. brought me home & I said goodbye to him.

23-26-THUR.

Chas. went back to London early train.

on duty all day at 7.3.

24-27-FRI. Chas. returned to Brigade & received orders for France.

Bags getting ready for Conroy which arrived 9.30 pm.

25-28-SAT.

On duty.

Wrote from Chas. & Mat.

The pair in London, both stayed at Ighite.

26

29-Sun. 1st in Advent

Chas. & Mat. together. Mat. returned Salisbury evening train. Chas. spent evening with Keith.

Went to Palace Pier Orchestral concert in aft. with Beavis & Radcliff.

30-MON.

Chas. left for France from Southampton. Sent me wire to say goodbye.

on duty.

31

1-TUES. (DECEMBER)

Day off. Went to London to get dress allowance filed up. No excitement.

29

2-WED.

Recd. letter card from Chas. saying they had to put back to Southampton owing to mines or submarines. He left again on Tuesday morning. Wrote to Mr. Trolley. Her birthday.

30

3-THUR.

Beavis's operation.

31

December

4-FRI.

5

5-SAT.

Janet left for London in afternoon to begin her furlough next day.

³6-Sun. 2nd in Advent

Baw. up.

47-MON. Posted parcels home.
(Scamps).

58-TUES.

69-WED.

710-THUR.

811-FRI. Went to Shoreham with
Baudinet. in aft.
Baw. heard good news re Path. exam.
Recd. cake + parcel from Mother.
Recd. orders to go to Sick sisters next Wed.

912-SAT. Recd. letter from Chas.
telling me he had gone to 3 Battery
96th Brigade, PFA, 2nd Div.

¹⁰13-Sun. 3rd in Advent Day off.

Keith Eltham came to Brighton
Baw. + J. Clennett + I met him +
had lunch. Orchestral concert in
afternoon on Palace Pier. Saw R. ¹¹

14-MON.

1215-TUES.

1316-WED.

1417-THUR. Met Rang me up from
London.

1518-FRI. Went to London to meet
Max
met him at Hotel Cecil at 10 am.
Went to Hampstead Heath (snow everywhere)
+ to 'Bleasdale'. Very happy day.

1619-SAT. Radcliff returned from
furlough. All trains late, dense
fog in London.

17-20-Sun. 4th in Advent

18-21-MON.

19-22-TUES.

20-23-WED.

21-24-THUR.

22-25-FRI. Christmas Day. Scotch Bank Holiday

Sent wire to Chas. & cable
to Mother.

23-26-SAT. Bank Holiday

Chas. birthday.

24-27-Sun. 1st after Christmas

25-28-MON. Christmas day. Busy.
Decorations & fire dinner at Seth
Sisters. Great fun with mistletoe
Xmas dinner 6-30 pm. at St Lukes.
Dance after & music.

26-29-TUES.

27-30-WED.

28-31-THUR.

29

30

31 New Years eve. Sir Giblin killed in
France

Letters. No.

CASH ACCOUNT

DATE	PARTICULARS	RECEIVED	PAID
Nov. 7.	Mother, Chas. Mrs Hutton, C.H.E.		
" 8	J.L.W. Mrs Mes, wife Mrs Davidson, Hattie & Burbury, Ivy, Turner, R.M.A.		
" 11	Mother, Chas. Net.		
" 13	R.M.A.		
" 15	Chas. D.A.L.		
" 16	J.L.W.		
" 17	C.H.E., Chas, Mother, R.M.A., W.		
" 19	Col. Gimlet, J.M.		
Dec. 3	Daisy to Mother + W.		
" 5	Chas. Mother.		
" 6	(Reg. letters to Mother, P.A., Net, Ivy, W. + Mrs Dol.)		
	Letters to W. R.M.A., Chas. Mother		
	Photos + P.C.s to Mother.		
" 9	C.H.E., D.A.L., J.M., Chas, Brick Wans.		
" 16	Mother, R.M.A., Chas, J.L.W., Gellan.		
19	R.M.A., J.M., C.H.E. J.L.W. D.A.L. Chas. Wans. Brick		

Not noted.

Jan. 28	R.M.A. (4) Mother (3) Chas (2).		
(Naples)	C.H.E. (2) D.A.L. J.L.W. W. J.M. Hattie. Thompson, Selp, Freeman		
Feb. 5	R.M.A., C.H.E., Mother, Chas.		
Feb. 8	C.H.E. D.A.L., R.M.A., Chas. Mother		
(Naples)	W., P.C. to Hattie, Mother, Mrs McChinty, Dellery, Davidson		
Feb. 14	Mother, Chas, R.M.A.		

CASH ACCOUNT

DATE	PARTICULARS	RECEIVED	PAID
Mar. 2 nd (England)	R.M.A., Mother, C.H.E.		
7.	R.M.A., Mother, Chas, Janet.		
- 8	Mother Chas, Deacon.		
11	Harris		
- 12	Mother		
- 13	Selp. Hattie & Burbury, C.H.E. W.		
- 16	Chas, Mother, R.M.A., Hattie, Mrs Whyte, W. Robinson, W. Hines.		

CASH ACCOUNT

DATE	PARTICULARS	RECEIVED	PAID
Jan 7	Master's Club, 1000	1000	
Jan 8	Master's Club, 1000	1000	
Jan 9	Master's Club, 1000	1000	
Jan 10	Master's Club, 1000	1000	
Jan 11	Master's Club, 1000	1000	
Jan 12	Master's Club, 1000	1000	
Jan 13	Master's Club, 1000	1000	
Jan 14	Master's Club, 1000	1000	
Jan 15	Master's Club, 1000	1000	
Jan 16	Master's Club, 1000	1000	
Jan 17	Master's Club, 1000	1000	
Jan 18	Master's Club, 1000	1000	
Jan 19	Master's Club, 1000	1000	
Jan 20	Master's Club, 1000	1000	
Jan 21	Master's Club, 1000	1000	
Jan 22	Master's Club, 1000	1000	
Jan 23	Master's Club, 1000	1000	
Jan 24	Master's Club, 1000	1000	
Jan 25	Master's Club, 1000	1000	
Jan 26	Master's Club, 1000	1000	
Jan 27	Master's Club, 1000	1000	
Jan 28	Master's Club, 1000	1000	
Jan 29	Master's Club, 1000	1000	
Jan 30	Master's Club, 1000	1000	
Jan 31	Master's Club, 1000	1000	

CASH ACCOUNT

[illegible]

CASH ACCOUNT

[illegible]

CASH ACCOUNT

[illegible]

CASH ACCOUNT

[illegible]

CASH ACCOUNT

[illegible]

Miss Ellis
14 Allison Road
CASH ACCOUNT

DATE PARTICULARS RECEIVED PAID

action
London W.

Eaves.

(12 Wilson St. Glasgow)

No. 11 General Post
B E F France

Serjt. C. W. Brink 1210.
No. 2. A. S. H

Evens 1223

Roy Phillips St.
28th Battalion

Mr Buck Pitt
Murch St.
Off Tower Road
New Town

Corr. Mrs Mrs. Rust. Colvin
Mrs Frankcomb.

Mr King
No. 3 - St Kilda's Road
Stoke Newington
London N.

Mr H Powell.
31st Gen. Hosp
Port Said.

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Australian Commonwealth

	s.	d.
s, within the Commonwealth, every $\frac{1}{2}$ oz., or fraction of $\frac{1}{2}$ oz., up to 3 lb. ...	0	1
New Hebrides, Banks and Torres Islands, every $\frac{1}{2}$ oz., or fraction of $\frac{1}{2}$ oz., up to 3 lb. ...	0	2
Registration Fee ...	0	3
Post, Inland, 1 lb. or under, 6d.; extra lb. or fraction of lb. ...	0	3
„ Interstate, New Zealand, Fiji and Papua, 1 lb. or under, 8d.; extra lb., or fraction of lb., up to 11 lb. ...	0	6
„ United Kingdom, 1 lb. or under, 1s.; extra lb., or fraction of ...	0	6

Newspapers—Within the Commonwealth and to New Zealand, Fiji and Papua: (printed and published within the Commonwealth, for sale), without condition as to the number contained in such wrapper, for every 10 oz. or under ... 0 0 1

Magazines:—

Within the Commonwealth and to Papua—	
„ Printed in Australia, every 8 oz., or fraction of ...	0 0 1
„ Printed outside Australia, every 4 oz., or fraction of ...	0 0 1
„ To New Zealand, Fiji, New Hebrides and Solomon Islands, not exceeding 8 oz. ...	0 1
Every additional 4 oz., or fraction of ...	0 0 1
„ To all other places outside the Commonwealth, every 2 oz., or fraction of ...	0 1
„ Single 1d., Reply ...	0 2
„ Within the Commonwealth, each ...	0 1
To New Hebrides, Banks and Torres Islands, each ...	0 2

Letter (wholly printed in ordinary type):—
in the Commonwealth, $\frac{1}{2}$ d. per 2 oz., or fraction of.
other places, 1d. per 2 oz., or fraction of.

Miss Allison
14 Allison Road
CASH ACCOUNT

DATE PARTICULARS RECEIVED PAID

Torn Lane
action
London W.

Eures.

(12 Wilson St. Glasgow)

No. 11 General Post
BET France

Sergt. C.W. Brink 1210.
No. 2. A.S.H.

Evens 1223

Roy Phillips St.
28th Battalion

Mr Buck Pitt
Murch St.
Off Tower Road
New Town

Corr. Mrs Mrs. Rust. Colvin
Mrs Frankcomb.

Mrs King
No. 3 - St Kilda's Road
Stoke Newington
London N.

M H Powell.
31st Gen. Hosp
Port Said.

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NOTE.—When telegraphing to BURROUGHS WELLCOME & Co., Sydney, from New Zealand or Foreign Countries (not Tasmania), the cable address, "Tabloid, Sydney," may be used.

Australian Commonwealth

	s.	d.
Letters, within the Commonwealth, every $\frac{1}{2}$ oz., or fraction of $\frac{1}{2}$ oz., up to 3 lb. ...	0	1
" New Hebrides, Banks and Torres Islands, every $\frac{1}{2}$ oz., or fraction of $\frac{1}{2}$ oz., up to 3 lb. ...	0	2
" Registration Fee ...	0	3
Parcel Post, Inland, 1 lb. or under, 6d.; extra lb. or fraction of lb. ...	0	3
" " Interstate, New Zealand, Fiji and Papua, 1 lb. or under, 8d.; extra lb. or fraction of lb., up to 11 lb. ...	0	6
" " United Kingdom, 1 lb. or under, 1s.; extra lb., or fraction of ...	0	6
Newspapers—Within the Commonwealth and to New Zealand, Fiji and Papua: (printed and published within the Commonwealth, for sale), without condition as to the number contained in such wrapper, for every 10 oz. or under ...	0	0 $\frac{1}{2}$

Magazines:—

Within the Commonwealth and to Papua—	
" Printed in Australia, every 8 oz., or fraction of ...	0 0 $\frac{1}{2}$
" Printed outside Australia, every 4 oz., or fraction of ...	0 0 $\frac{1}{2}$
" To New Zealand, Fiji, New Hebrides and Solomon Islands, not exceeding 8 oz. ...	0 1
Every additional 4 oz., or fraction of ...	0 0 $\frac{1}{2}$
" To all other places outside the Commonwealth, every 2 oz., or fraction of ...	0 1
Post Cards, Single 1d., Reply ...	0 2
Letter Cards, within the Commonwealth, each ...	0 1
" " To New Hebrides, Banks and Torres Islands, each ...	0 2

Printed matter (wholly printed in ordinary type):—

Within the Commonwealth, $\frac{1}{2}$ d. per 2 oz., or fraction of.
To all other places, 1d. per 2 oz., or fraction of.

Books:—

Within the Commonwealth, and to Papua—	<i>s. d.</i>
„ Printed in Australia, every 8 oz., or fraction of ...	0 0½
„ Printed outside Australia, every 4 oz., or fraction of ...	0 0½
„ To New Zealand, Fiji, New Hebrides and British Solomon Islands, every 4 oz., or fraction of ...	0 1

Commercial Papers, Inland and Interstate, 2 oz. or under... 0 1
And 1*d.* for every additional 2 oz., up to 5 lb.

Printed papers, within the Commonwealth, every 2 oz., or fraction of 0 0½
To New Zealand, Fiji, New Hebrides and British Solomon Islands, ½*d.* per 2 oz., or fraction of, with a minimum charge of 1*d.*

Patterns and Samples, 2 oz., or fraction of, up to 1 lb. ... 0 1

Foreign:—

(United Kingdom, India, Ceylon, Canada, Egypt, Hong Kong and British Agencies in China, Straits Settlements and South Africa)—

Letters, every ½ oz., or fraction of ...	0 1
Post Cards: Single, 1 <i>d.</i> ; Reply ...	0 2
Letter Cards, Single, each ...	0 1
Commercial Papers, not exceeding 2 oz., 3 <i>d.</i> ; each additional 2 oz., or fraction of, up to 10 oz., ½ <i>d.</i> ; each additional 2 oz., or fraction of, beyond 10 oz. ...	0 1
Patterns and Samples, printed papers, books and magazines, every 2 oz., or fraction of ...	0 1
Newspapers, not exceeding 4 oz., 1 <i>d.</i> ; each additional 2 oz. ...	0 0½
Newspapers (U.K. only), not exceeding 8 oz., 1 <i>d.</i> Exceeding 8 oz., but not exceeding 10 oz. ...	0 2½
Each additional 2 oz. ...	0 0½

(Other parts of the World)—

Letters, every ½ oz. up to 3 lb. ...	0 2½
Post Cards: Single, 1½ <i>d.</i> ; Reply ...	0 3
Letter Cards, Single, each ...	0 2½
Newspapers, 1 <i>d.</i> each up to 4 oz., and then ½ <i>d.</i> per 2 oz.	
Printed matter, every 2 oz., or fraction of ...	0 1
Commercial Papers, rates as above, but limited to 5 lb. in weight.	

Postal Notes:—Poundage on Notes to the value of 6*d.*, 1/-, 1/6, ½*d.*; 2/-, 2/6, 3/-, 3/6, 4/-, 4/6, 5/-, 1½*d.*; 7/6, 2*d.*; 10/-, 10/6, 15/-, 20/-, 3*d.*

Money Orders, The Commonwealth:—Not exceeding £5, 6*d.*; £10, 1/-; £15, 1/6; £20, 2/-

Money Orders, New Zealand and Fiji:—Not exceeding £2, 6*d.*; £5, 1/-; £7, 1/6; £10, 2/-; £12, 2/6; £15, 3/-; £17, 3/6; £20, 4/-

The same proportion is charged for sums exceeding £20, but not exceeding £40.

No stamp duty is charged on any Money Order issued or paid within the Commonwealth.

Money Orders, payable in the United Kingdom, British Possessions and Foreign Countries, 6*d.* for each £1 or fraction of.

Telegrams (including address and signature):—

Town and Suburban or within 15 miles from sending station ...	Not exceeding 16 words, 6 <i>d.</i> ; each additional word, 1 <i>d.</i>
Other places within the State ...	Not exceeding 16 words, 9 <i>d.</i> ; each additional word, 1 <i>d.</i>
Interstate ...	Not exceeding 16 words, 1 <i>s.</i> ; each additional word, 1 <i>d.</i>

Urgent and Sunday Telegrams—Double the ordinary rates.

To Norfolk Island ...	3 <i>d.</i> per word
„ Fiji ...	8 <i>d.</i>
„ New Zealand ...	4½ <i>d.</i>
„ New Caledonia ...	9 <i>d.</i>

New Zealand

“Inland” includes the Islands in the Pacific, annexed to New Zealand.

Letters, Inland, first 4 oz., or fraction of ...	0 1
Each succeeding 2 oz., or fraction of ...	0 0½
„ United Kingdom, Australia, British Possessions, United States of America and certain countries, each oz., or fraction of ...	0 1
„ All other places, each ...	0 2½
„ Registration Fee, for all places ...	0 2

Post Cards, Inland: Single, ½*d.*; Reply ... 0 1

„ „ All other places: Single, 1*d.*; Reply... 0 2

Letter Cards, Inland, first 4 oz., or fraction of, 1*d.*; each succeeding 2 oz., or fraction of... 0 0½

„ „ United Kingdom, British Possessions, etc., every oz., or fraction of ... 0 1

„ „ All other places, each ... 0 2½

Parcel Post, Inland, 1 lb. or under, 4*d.*; extra lb. or under ... 0 2

„ „ Australia, 1 lb. or under, 8*d.*; extra lb. or under ... 0 6

„ „ United Kingdom, up to 3 lb., 1/-; 7 lb., 2/-; 11 lb., 3/-

Newspapers, Inland, each ... 0 0½

„ United Kingdom, Australia, Canada and many other British Possessions, each ... 0 1

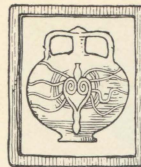
„ Other places, each, up to 4 oz. ... 0 1

And for every additional 2 oz., or fraction of ... 0 0½

Commercial Papers:—Town in which posted (for accounts, etc.), up to $\frac{1}{2}$ oz., $\frac{1}{2}d.$; over $\frac{1}{2}$ oz. up to 4 oz., $1d.$; each succeeding 2 oz.	<i>s. d.</i> o 0 $\frac{1}{2}$
Throughout New Zealand, first 4 oz., $1d.$; each succeeding 2 oz., or fraction of	o 0 $\frac{1}{2}$
Australia, and all other places, first 10 oz., $2\frac{1}{2}d.$; each succeeding 2 oz. (limit of weight 4 lb.)	o 0 $\frac{1}{2}$
Patterns and Samples, Inland, every 2 oz., or fraction of, up to 5 lb.	o 0 $\frac{1}{2}$
All other places, 4 oz. and under	o 1
Each additional 2 oz., or fraction of	o 0 $\frac{1}{2}$
Books and Printed Papers, all places, for each 2 oz., or fraction of	o 0 $\frac{1}{2}$
Magazines (Registered), Inland, each copy, per 8 oz.	o 0 $\frac{1}{2}$
Australia (except Queensland and Western Australia), each copy not exceeding 2 oz., $1d.$; over 2 oz. and up to 8 oz., $1d.$; every additional 4 oz., or fraction of	o 0 $\frac{1}{2}$
Queensland, Western Australia and other places, per 2 oz.	o 0 $\frac{1}{2}$
Magazines (Unregistered):—All places, per 2 oz.	o 0 $\frac{1}{2}$
Postal Notes:—Poundage on Notes to the value of $1/-$, $1/6$, $2/-$, $2/6$, $\frac{1}{2}d.$; $3/-$, $5/-$, $1d.$; $10/-$, $15/-$, $20/-$, $2d.$	
Money Orders, Inland:—Not exceeding $\pounds 5$, $3d.$; $\pounds 10$, $6d.$; $\pounds 15$, $9d.$; $\pounds 20$, $1/-$; $\pounds 25$, $1/3$; $\pounds 30$, $1/6$; $\pounds 35$, $1/9$; $\pounds 40$, $2/-$	
Money Orders, Australia, Fiji, etc.—Not exceeding $\pounds 2$, $6d.$; $\pounds 5$, $1/-$; $\pounds 7$, $1/6$; $\pounds 10$, $2/-$; $\pounds 12$, $2/6$; $\pounds 15$, $3/-$; $\pounds 17$, $3/6$; $\pounds 20$, $4/-$; $\pounds 22$, $4/6$; $\pounds 25$, $5/-$; $\pounds 27$, $5/6$; $\pounds 30$, $6/-$; $\pounds 32$, $6/6$; $\pounds 35$, $7/-$; $\pounds 37$, $7/6$; $\pounds 40$, $8/-$	
Money Orders, United Kingdom and other Countries: $3d.$ per \pounds up to $\pounds 40$.	
Money Orders, United States of America:—Same rate, but limit $\pounds 20$.	
Telegrams:—To or from any station in New Zealand, 12 words, $6d.$; every additional word, $\frac{1}{2}d.$ Address and signature included. "Urgent" messages may be sent by paying double rates, and have precedence over ordinary messages.	
To Australia	<i>s. d.</i> o 4 $\frac{1}{2}$ each word
„ Tasmania	o 4 $\frac{1}{2}$ „
„ Norfolk Island	o 3 „
„ Fiji	o 8 „
„ New Caledonia	I 1 „
"Urgent" messages to Australia:—Treble rates.	

BURROUGHS WELLCOME & CO., LONDON

NEW YORK MONTREAL CAPE TOWN MILAN
SHANGHAI BUENOS AIRES BOMBAY
AND 481, KENT STREET, SYDNEY, N.S.W.

HISTORICAL MEDICAL
EQUIPMENTS

NOT without reason do men treasure the relics of great men and the memorials of great achievements. A splinter from the deck that bore Nelson to his last heroic conflict on the sea; a sword, rusted and battered now, but once grasped by the hand of Napoleon or Marlborough; an exploded shell from Badajos, or a bullet that once hurtled through the icy air of Inkerman—what vivid remembrancers are these of deeds and heroes never to be forgotten!

To the nurse who is interested in that aspect of her profession which concerns itself with the care of the wounded in battle, such memorials appeal with peculiar force.

But it is not only upon the battlefield that men face danger, and face it bravely. Upon the lonely trail, far from the comfortable gleam of camp-fire or the cheerful shout of comrades, many an intrepid pioneer has stepped out beyond the confines of civilisation, taking his life in his hand.

The missionary, the geographical explorer and the aviator present types of heroism no less splendid than those which adorn our military annals. In regard to every achievement, whether in peace or war, the most interesting and instructive mementoes are those which actually bring before the eye the very instrument with which success has been won, or the equipment which helped towards that end.

For these reasons the following particulars relating to medical equipments carried by distinguished explorers and others to many distant parts of the earth will be of interest.

The dangers of exploration are many and various, but the wit and courage of the trained explorer are sufficient for them so long as he maintains his physical health. When that is undermined, his hopes of a successful issue for his venture are few indeed.

The problem of transporting the requisite medicines for a prolonged journey in arctic or tropic zones, far from all means of supply, is a difficult one. In former times the bulk



RELIC 'TABLOID' MEDICINE CASES—AFRICA

1—Medicine belt carried by Capt. Stairs throughout his Katanga Expedition. 2—The famous "Rearguard" medicine case used during Sir H. M. Stanley's travels. 3—Extricated from the ruins after the Bandawe Mission House had been demolished by lightning; the contents that escaped damage were used for more than ten years afterwards. 4—Once the property of E. G. Glave. This case was afterwards destroyed by fire at the Brussels Exhibition, 1910. 5—Carried by Captain Thomas

Stevens on the expedition in East Africa to find Stanley. 6—Chest carried by Sir H. M. Stanley during the Emin Pasha Relief and other Expeditions. 7—Formerly the property of Dr. Percy Rendall, Principal Medical Officer, British Central Africa Administration. 8—Case carried by Frank Muxworthy, the famous African Caravan Leader, on three journeys through Uganda. This case was afterwards destroyed by fire at the Brussels Exhibition, 1910. 9—The last medicine chest supplied to Emin Pasha.

of the liquid medicines carried, and the impossibility of supplying a sufficiency in that inconvenient form, often condemned the explorer to go medicineless to his doom. But with the introduction of 'Tabloid' compressed medicines and 'Tabloid' compressed bandages and dressings, it became possible to equip the pioneer, either on earth, sea or air, in a manner more suitable to his requirements.

IN AFRICA

That "everything new comes out of Africa" is a saying old as Herodotus. Since his day the mysterious dark continent has furnished the material of many a stirring story of travel and adventure, but none stranger and more thrilling than that of Stanley, whose life and career were so intimately bound up with Africa. No man knew more, probably, of the difficulties and dangers of tropical exploration, and his words on medical equipments are therefore worth repeating.

Speaking of his wish to ameliorate the miseries of African explorers, he said :—

"How it was to be done I knew not; who was to do it I did not know. But I made the acquaintance of Messrs. BURROUGHS WELLCOME & Co. As soon as I came in sight of their preparations and their works, I found the consummation of my secret wish. On my later expeditions I had all the medicines that were required for my black men, as well as my white men, beautifully prepared, and in most elegant fashion arranged in the smallest medicine chest it was ever my lot to carry into Africa."

One famous chest, the "Rearguard" 'Tabloid' Medicine Chest, remained in the swampy forest regions of the Aruwihimi for nearly four years, and more than once was actually submerged in the river. The remaining contents were tested by the official analyst of the *Lancet* (London) when it was brought back to England, and the 'Tabloid' medicaments declared to have perfectly preserved their efficiency.

If, to-day, the savagery of all the welter of humanity that still hides in the darkness of darkest Africa is receding—ever so slowly—before the march of Science, something is surely due to the 'Tabloid' weapons of precision with which disease and death have been fought.

The real
problem
of Africa



RELIC 'TABLOID' MEDICINE CASES—TRAVEL, ETC.

1—Harry de Windt's medical equipment, used on his travels in E. Siberia. 2—Chest taken by Ex-President Roosevelt on his recent shooting and hunting expedition in East Africa. 3—Chest carried by Lionel Declé on his three years' journey from the Cape to Uganda (6000 miles). 4—Mrs. Bishop (Miss Isabella Bird), in her book describing her extensive wanderings, highly commends this medicine case. 5—The medical equipment carried by Mrs. French Sheldon, F.R.G.S.,

on her adventurous expedition throughout the entire Congo Free State. 6—Duplicate of medicine chest taken by Sven Hedin on his unique journey beyond the Himalayas into the heart of Tibet. 7—Case carried by R. L. Jefferson, F.R.G.S., on his famous bicycle ride to Khiva. 8—Pocket-case carried by J. E. Budgett Meakin. 9—Medicine chest carried by Julius Price, of the "Illustrated London News," for over 30,000 miles through various climes.

IN TRAVEL AND EXPLORATION

The true traveller is born. The call of the beyond is in his blood. Such a man is Sir Sven Hedin, who for two long years wandered about the wildernesses of Tibet, tracing the "Mighty Mountain Palisade" of the trans-Himalaya, and exploring the "Roof of the World." His constant companion was a 'Tabloid' Medicine Chest, which stood him in good stead in illness and hardship, and even in the primrose paths of diplomacy. At Shigatse he made it his offering of friendship to the Tashi-Lama, that mysterious Pontiff of Tibetan Buddhism who exercises spiritual sovereignty over a city of monks in the rocky fortress of Lhasa.

The horn
traveller

The "Roof
of the
World"

Ex-President Roosevelt, on his African expedition, took with him a 'Tabloid' Medical and Photographic Equipment, and found it (Lieut.-Col. Mearns reports) "very satisfactory and useful." Many other travellers of distinction, including Glave, Muxworthy, Rendall, Captain Stair, W. S. Caine, Mrs. Bishop (Isabella Bird), Mrs. French Sheldon, have been equipped with 'Tabloid' Medicine Cases, and have reported favourably on their portability and reliability.

Some
travellers
of
distinction

IN WARFARE

To Military Expeditions 'Tabloid' Medical Equipments are as indispensable as the emergency ration. Their compression, concentration, compactness and convenience meet the first requirements of successful transport. In addition, they possess such advantages as purity, reliability and accuracy of dosage.

For more than a generation past 'Tabloid' Medical Equipments have been used in every campaign of note. During the war between the United States of America and Spain their utility was tested and confirmed both in Cuba and the Philippines. In recent British campaigns, from Omdurman to South Africa, they have played a prominent part.

Of special interest was the equipment of the American Ladies' Hospital Ship "Maine," for the South African Campaign, the whole of the medical outfit of which (in a beautifully-designed case of tooled leather) was supplied by Burroughs Wellcome & Co.



RELIC 'TABLOID' MEDICINE CASES—WARFARE

1—One of the medicine belts used during the Spanish-American War. 2—One of the medicine chests used in the Ashanti Campaign, 1895-6. 3—G. W. Steevens carried this equipment through many campaigns and journeys. 4—A relic of many battles and sieges, formerly the property of W. Maxwell, war correspondent. 5—One of the cases used by British and Colonial contingents during the South African War. 6—Part of the medical equipment of Greece during the war with Turkey, 1897. 7—Duplicate of the medical equipment of Bennet Burleigh,

war correspondent. 8—One of the portable medicine cases used on the Dongola Expedition. 9—A duplicate of the equipment used during the Anglo-Egyptian Campaign in the Sudan. 10—A specially-designed case carried by the C.I.V. in the South African War. 11—A specially-designed chest, part of the medical equipment entirely supplied by Burroughs Wellcome & Co. for the Hospital Ship "Maine." 12—Pocket medicine case carried by Gen. Viljoen throughout the South African War. 13—Medicine belt used during the Benin Campaign.

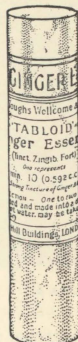
War correspondents—than whom no keener judges of kit and equipment exist—have appreciated to the full the value and convenience of 'Tabloid' Equipments. The list of eminent journalists who have carried 'Tabloid' Cases includes, among other world-famous names, those of Bennet Burleigh, Frederick Villiers, René Bull, Julius Price and William Maxwell, the late G. W. Steevens and a host of others. Of her husband's 'Tabloid' outfit Mrs. Steevens reports:—

"He took it everywhere with him—to the Græco-Turk War, twice to the Soudan, India, and lastly (well replenished by you) to South Africa."

IN ARCTIC AND ANTARCTIC EXPLORATION

'Tabloid' Medicine Chests and Cases have always been of inestimable value to the Arctic and the Antarctic explorer, and are associated with the names of Peary, Amundsen, Scott, Nansen, Shackleton, Jackson-Harmsworth, the Duke of the Abruzzi and very many others. The belts and other 'Tabloid' Equipments supplied to Nansen for his journey "Farthest North," and those used by the Jackson-Harmsworth Expedition, have now been added to Burroughs Wellcome & Co.'s collection of historic outfits. "Hearty thanks, splendid indeed," reported the enthusiastic Norseman, Nansen. One of the eight tubes of 'Tabloid' products carried by Peary to the North Pole was presented by that celebrated explorer to Burroughs Wellcome & Co. on his return.

'Tabloid' Cases "as distant as the Poles asunder"



Tube of 'Tabloid' products carried by Commander Peary to the NORTH POLE

An actual relic from the North Pole

In the Antarctic, 'Tabloid' Medicine Chests and Products formed the sole medical equipment of Sir Ernest Shackleton, who reached a point 97 miles from the South Pole. They were carried by Captain Scott on his voyage in the "Discovery" to the same frozen region, and again in the "Terra Nova," which now awaits the return of that intrepid explorer, who is spending another winter among the ice-floes and snow deserts of the Far

South. Capt. Amundsen, who has safely returned, and announces the actual discovery of the South Pole, was also equipped with a 'Tabloid' Medical Outfit.

IN AVIATION

Flying is the triumph of the adaptation of means to an end. Everything in the modern aeroplane is there by design and has a purpose; every wire and wing, every nut and clamp, has been tried and tested for workmanship and endurance. The strains and stresses which must be borne when the airman is far above the earth and flying against the wind will search out the weak spot in his machine, if weakness there be, inevitably. Nothing, therefore, must be admitted which is not perfect of its kind. Medical and first-aid equipments are necessary, because the airman now travels great distances, and may come down far from any human habitation, and, from the first growth of this wonderful movement, 'Tabloid' First-Aid and 'Tabloid' Medicine Chests have been enthusiastically adopted for this purpose by aviators and aeronauts.

Characteristics of aeroplane equipment

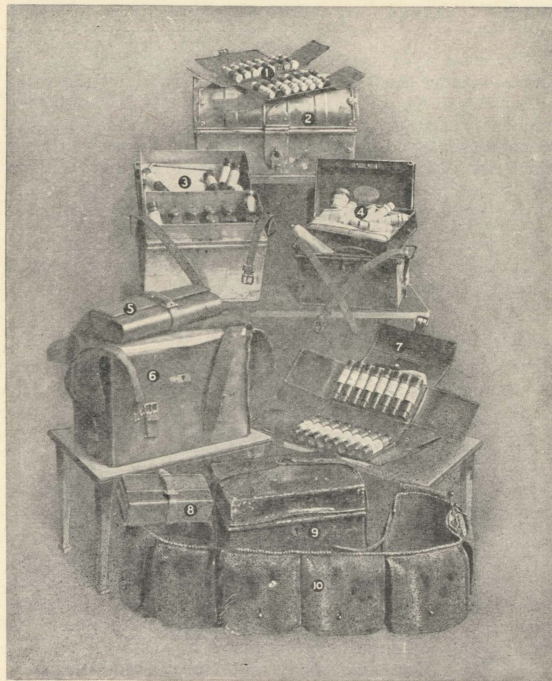
For years patient investigators and brave pioneers of aviation worked at the problem of producing "heavier-than-air" flying machines—Lillenthal and Chanute with their gliders, Professor Langley and Sir Hiram Maxim upon the mechanical side, the Wright Brothers, Santos Dumont and many others. It was not, however, until Louis Blériot flew across the English Channel on July 25, 1909, that the British public began to realise that the great project of mechanical flight had been actually achieved.

The work of the pioneers

Then came the European and British circuits, proving to an astonished world the great distances, immense speed and endurance of which flying men and flying machines were capable.

Both those historic circuit-contests were won by Naval-Lieut. Jean Conneau (André Beaumont). With reference to his first-aid equipment, this famous aviator reports:—

"Grâce à sa légèreté et son format la petite boîte 'Tabloid' First-Aid se recommande spécialement aux aviateurs."



RELIC 'TABLOID' MEDICINE CASES—POLAR EXPLORATION

1—Scottish National Antarctic medicine case. 2—Chest used during three years' exploration by the Jackson-Harmsworth Arctic Expedition. 3—A duplicate of the chest carried by the Duke of the Abruzzi's Polar Expedition. 4—Part of the complete medical equipment supplied by BurroughsWellcome & Co. for the National Antarctic Expedition, 1901. 5—Andree, on his historical attempt to reach the North Pole by balloon, carried a case of this design. 6—Medicine case

used by Wellman on his attempt to reach the North Pole in an airship. 7—Carried on the journey to the summit of Mount Erebus, and during the "Farthest South" journey, British Antarctic Expedition, 1907-9. 8—Case carried by the party which reached the South Magnetic Pole, British Antarctic Expedition, 1907-9. 9—Duplicate of chest which was part of Peary's equipment on his historic discovery of the North Pole. 10—Belt supplied to Nansen for his journey "Farthest North."



PAULHAN ON HIS FLIGHT TO MANCHESTER

Louis Paulhan won the "Daily Mail" £10,000 prize by his flight from London to Manchester April 27-28, 1910.

Inset are pictures of this famous aviator and of the 'Tabloid' First-Aid Outfit which he carries.

"BEAUMONT"

Naval-Lieut. Jean Conneau won over £20,000 in prizes in 1911.

Lieut. Conneau is seen examining the 'Tabloid' First-Aid No. 706, which he carried on his historic flights.



Védrines, whose splendid and meteoric career only commenced on December 7, 1910, when he received his flying certificate, won, a few months later, the Paris-Madrid race (May, 1911). On that occasion he covered over 727 miles in a little over twelve hours, and was attacked by an eagle while crossing the Sierra Guadarrama. He has since, in February of 1912, accomplished in one flight 124 miles in an hour and a quarter. His report on first-aid was as follows:—

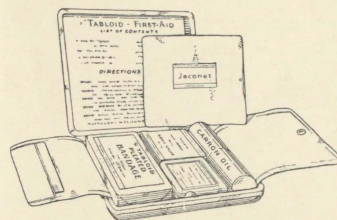
Védrines
crossing
the
Apennines

"Je considère votre Premier-Secours 'Tabloid' comme très utile. Son peu de volume en fait un modèle d'une extrême commodité."

Paulhan, the winner of the London-to-Manchester (*Daily Mail* £10,000 prize, 1910) race, carried with him a 'Tabloid' First-Aid; and many other Continental and American flyers have commented warmly in their reports upon the convenience, thorough efficiency and portability of these equipments.

Among British aviators the same chorus of hearty approval has been bestowed.

Grahame-White, who has gained many honours, gives in the following report a further souvenir of the London-to-Manchester flight:—



'Tabloid' First-Aid as carried by Mr. C. Grahame-White on his flight from London to Manchester for the "Daily Mail" £10,000 prize

"You will be interested to know that I first made the acquaintance of your 'Tabloid' First-Aid Cases by carrying one of the small aluminium pocket equipments (No. 706) on my flight from London to Manchester. . . .

I found it so well adapted for the requirements of aviators that I have never been without this case, or one of your other models, on subsequent flights, and I consider no aviator should be without one."



GRAHAME- WHITE

Claude Grahame-White won the Gordon-Bennett Cup for England at Belmont, N.Y., 1910, on a Blériot monoplane, which is seen in this photograph with 'Tabloid' First-Aid attached to it.



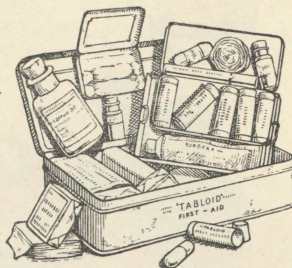
CODY

S. F. Cody has done important work for the British War Office, and uses aeroplanes of his own design.

The arrow indicates the position of the 'Tabloid' First-Aid Equipment on his machine.

Cody, the inventor and aviator, carries 'Tabloid' First-Aid on all his flights, and thus reports :—

"The 'Tabloid' First-Aid Case has always been in its place on my machine, and I have found the contents of inestimable value on numerous occasions. I consider it altogether a most excellent idea, enabling one, as it does, to carry, in the smallest possible space, remedies with which to meet every emergency."



'Tabloid' First-Aid actually carried by Mr. S. F. Cody on his flights

One of the most interesting and useful of the practical applications of flying appears to be that of carrying intelligence rapidly from one place to another when other means of communication are temporarily wanting.

Experiments in this direction have been eminently successful.

In India, Pécquet (February 18, 1911) carried a mail of 6000 letters and post cards from Allahabad across the Jumna to Naini. Pécquet and Keith-Davies will be remembered as the first airmen to fly in India. Of 'Tabloid' First-Aid, Pécquet reports :—

Aviation
in India

"J'ai toujours emporté avec moi l'équipement Premier-Séours 'Tabloid,' et puis vous confirmer qu'il m'a toujours été de très grande utilité aux petits accidents que j'ai eus."

Mails have also been carried in England by Hamel and Hubert (between Hendon and Windsor), and in America by Earle Ovington. 'Tabloid' First-Aid Equipments were used in all these journeys. Earle Ovington, under the personal direction of Postmaster-General Hitchcock, carried the first U.S.A. Government Aerial Post. On one occasion the Postmaster-General accompanied Mr. Ovington in a flight with the mails. The aviator reports :—

British and
American
Aerial
Posts

OVINGTON

Earle J. Ovington was the first man to carry the official U.S.A. Mail in America.

Inset in the picture is a photograph of the 'Tabloid' First-Aid Equipment carried by him.



WATKINS

Lieut. H. E. Watkins with the Vickers Monoplane, intended for the Mawson Antarctic Expedition, fitted with 'Tabloid' First-Aid, the position of which is indicated by an arrow.



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"I have looked the ['Tabloid'] outfits over carefully, and wish to compliment you upon the wonderful compactness and efficiency of your product. I feel decidedly more comfortable because I have your little outfits along with me to administer to my aid when necessity arises."

Aviators and aeronauts have also endeavoured to make their art help forward the great cause of geographical exploration, and in this department of effort also they have found 'Tabloid' First-Aid of signal service.

Lieutenant Watkins, who was only prevented by a broken leg from accompanying the Australian Antarctic Expedition, 1911, as official aviator, made the following report:—

August 14, 1911

"Fortunately for myself I have had no occasion to use the small 'Tabloid' First-Aid you so kindly sent me, but a friend of mine, Dr. Pointer, R.A., who has been in aviation for many years, had a bad fall on his monoplane and was badly cut in many places. Your small outfit came in most handy. I consider that the 'Tabloid' Equipment you sent me for the Vickers monoplane is quite the most useful thing one could desire."

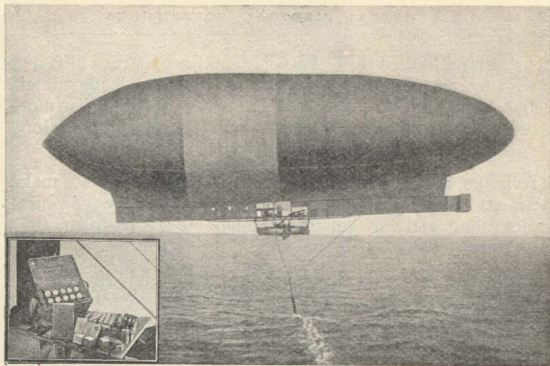
It was Lieutenant Watkins' intention to attempt a dash for the South Pole by aeroplane.

Equally great in conception was Wellman's scheme to cross the Atlantic, on which the explorer brought to bear immense pains and forethought, and all the experience of his Arctic travels.

The British record for a long-distance balloon voyage is held by Messrs. Gaudron, Maitland and C. C. Turner, who, on November 18, 1908, started from the Crystal Palace, London, and on the following day alighted at Mateki Derevni, Novo Alexandrovsk, Russia, having travelled 1117 miles in 31½ hours. Their sole medical equipment was a 'Tabloid' Medicine Case, concerning which Mr. Turner reports:—

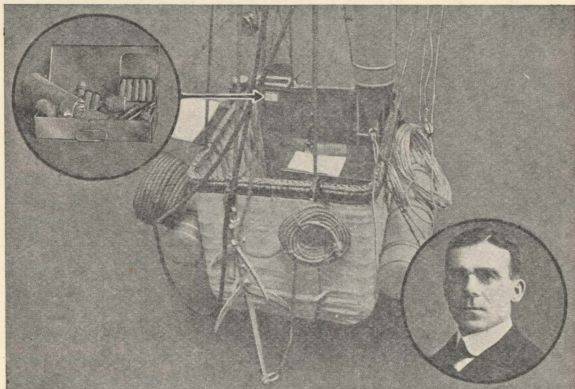
"The 'Tabloid' First-Aid Aeronaut's Outfit proved most valuable during our balloon voyage to Russia. We used the 'Vaporole' Ammonia with excellent results when suffering from the presence of gas in the air. But for the other remedies we should probably have suffered considerably. In future voyages I shall certainly take a 'Tabloid' First-Aid Outfit."

xix




THE FLIGHT OF THE AIRSHIP "AMERICA"

Mr. Wellman and five companions started from Atlantic City, October 15, 1910, with the intention of crossing to Europe, but were driven out of their course. After remaining in the air 72 hours and covering a distance of 1008 miles, they were rescued by R.M.S. "Trent." Inset is a photograph of the 'Tabloid' Medical Equipment carried on the "America."




THE "MAMMOTH" BALLOON "DAILY GRAPHIC" EXPEDITION, 1908

Inset are pictures of Mr. C. C. Turner, one of the aeronauts who accompanied the balloon, and of the 'Tabloid' First-Aid Equipment carried, as it appeared at the termination of this unique voyage (see page xix).



ALPHABETICAL LIST
OF
NURSING REQUISITES

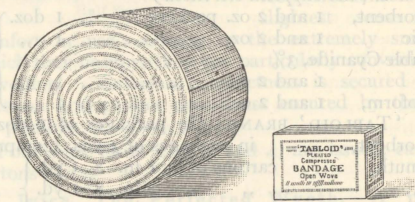
These articles are regularly
stocked by, and can be
obtained from, all Chemists



'Alaxa' (Trade Mark) Aromatic Liqueur of Cascara Sagrada.—'Alaxa' Aromatic Liqueur of Cascara Sagrada presents, in a pleasant and acceptable condition, the tonic laxative properties of true cascara. 'Alaxa' reinforces digestion and exerts a marked tonic effect on the bowel; it ensures normal activity and renders unnecessary the use of after-dinner pills or digestive aids.

Its palatability and gentle action render it ideal in the constipation of pregnancy. It strengthens digestion, improves the appetite, and restores the normal action of the bowel.

Bandages and Dressings, Pleated Compressed, 'Tabloid' Brand.—The introduction of Pleated Compressed Bandages and Dressings by Burroughs Wellcome & Co. marked an important advance in the preparation of surgical accessories.



Graphic representation showing relative bulk of an ordinary, and a 'Tabloid' bandage, each $2\frac{1}{2}$ in. \times 6 yards. One-half actual size

The important advantages of these admirable nursing requisites may be thus summarised:—

1. Only materials of exceptional quality are used in their preparation, and their general excellence commends them to the most critical users.

2. They occupy the smallest possible space, yet can be unfolded as easily as those previously in use.

3. Bandages and dressings are supplied sterilised where indicated. They are packed under aseptic conditions in sterilised packets, and remain aseptic until the covering is removed.

4. The antiseptic dressings are evenly charged with medicament.

5. Their extreme compactness renders them by far the best for the hand-bag or satchel, the cycle- or saddle-case.

The following is a list :—

ABSORBENT COTTON BETWEEN GAUZE, PLEATED COMPRESSED, 'TABLOID' BRAND

2 oz. packets, in packages of 1 doz.

BANDAGES, PLEATED COMPRESSED, 'TABLOID' BRAND

Open Wove, 1 in. × 6 yds., in packages of 1 doz.

" " 2-1/2 in. × 6 yds. " " "

Flannel, 2-1/2 in. × 5 yds. " " "

Triangular (Pictorial), packets of 2, in packages of 1 doz.

Illustrations, showing the various uses to which the triangular bandages may be put, are imprinted on the fabric itself.

CARBOLISED TOW, PLEATED COMPRESSED, 'TABLOID' BRAND—2 oz. packets, in packages of 1 doz.

COTTON, PLEATED COMPRESSED, 'TABLOID' BRAND

Absorbent, 1/4 oz., in packets of 4, in packages of 1 doz. (not supplied sterilised)

Absorbent, 1 and 2 oz. packets ... , 1 doz.

Boric 1 and 2 oz. " " , 1 "

Double Cyanide, 3% " " , 1 "

Iodoform, 1 and 2 oz. " " , 1 "

" " " " " " , 1 "

(Plain or sterilised)

GAUZES, 'TABLOID' BRAND—(In packages of 1 doz.)

Absorbent, in packages of 3 yds. (compressed)

Bismuth, cartons of 6, 1 in. × 1 yd.

" " " 2 in. × 1 yd.

" " " 3 in. × 1 yd.

" " " 2 in. × 6 yds.

" " " 3 in. × 6 yds.

" " " 1 in. × 12 yds.

" " " 2 in. × 12 yds.

" " " 3 in. × 12 yds.

" " 36 in. × 3 yds. (plain or sterilised)

(Sterilised)
(Not supplied sterilised)

GAUZES, 'TABLOID' BRAND—*continued*

Boric, in packets of 3 yds. (compressed)

Double Cyanide, 3% " " 3 yds. " "

Iodoform, " " 1 yd. " "

" " " 3 yds. " "

" " " 6 yds. × 1 in. " "

Sal Alembroth, 1% " " 3 yds. " "

LINT, PLEATED COMPRESSED, 'TABLOID' BRAND

Plain, 1 and 2 oz. packets, in packages of 1 doz.

Boric, 1 and 2 oz. " " " "

Carbolised, 1 oz. " " " "

SANITARY TOWELS, PLEATED COMPRESSED, 'TABLOID' BRAND

'Tabloid' Pleated Compressed Sanitary Towels possess several points of superiority over ordinary commercial sanitary towels.

They are made of materials of exceptional quality specially adapted for the purpose. Their highly-absorbent properties are particularly noteworthy. The delicate texture of the surface of

'Tabloid' Pleated Compressed
Sanitary Towel (No. 4)
Half Size

these towels ensures perfect freedom from the slightest sense of discomfort in use. Owing to the extremely small space which they occupy, they are particularly convenient when travelling. Extreme compactness is secured by compression and perfect cleanliness ensured by the method of packing.

Four sizes (Nos. 1, 2, 3 and 4) are issued, each size in cartons of 12.

Beef Juice, The Perfected Wyeth.—A pure and dependable liquid food is often required in the sick-room during illness or convalescence, and the nurse will sometimes find it expedient to make use of Beef Juice for this purpose. Wyeth Beef Juice is the concentrated nourishment successfully separated from the tissue of the choicest beef, by a cold process which ensures unaltered nutritive power and a delicious meat flavour. It is rich in albumin derived from the meat, and, being both nourishing and

stimulating, will of itself support life in critical periods of illness. When feeling the mental and physical strain of her exacting duties, the nurse will find in Wyeth Beef Juice an excellent invigorator and sustainer, of more real service than any mere stimulant. Half to one teaspoonful may be taken in half a tumblerful of water (aerated, if preferred), this quantity representing 1-1/2 to 3 ounces of prime lean beef. *In bottles.*

'Bivo' (Trade Mark) Beef and Iron Wine.—In this product the solvent is a pure detannated wine, which does not precipitate the nutritive elements of the beef, but retains both beef and iron in an acceptable and readily assimilable condition. The combination of beef, iron and wine is a highly-concentrated strength-giving food and tonic, especially useful in conditions of anæmia and weakness and during convalescence. It is very pleasant to take, and well borne by the most debilitated patient. *In bottles of 8 fl. oz. and 16 fl. oz.*

Blaud Pill, 'Tabloid' Brand.—The most generally effective method of administering iron is by means of 'Tabloid' Blaud Pill, in the production of which B. W. & Co. are enabled to present the iron in the state most readily absorbed by the blood. This feature alone is sufficient to account for the great superiority which medical men have always found in the 'Tabloid' product, since many crude imitations are absolutely inert. The tendency of iron, in some cases, to constipate, may be met by the use of 'Tabloid' Blaud Pill and Aloin, or by 'Tabloid' Blaud Pill and Cascara. *In bottles of 100.*

'Borofax' (Trade Mark) Brand Boric Acid Ointment.—An antiseptic, emollient and sedative preparation, superior to the ointment or glycerin of boric acid. 'Borofax' Boric Acid Ointment is uniform in consistence and composition, and never becomes rancid. It prevents or relieves irritation of the skin or mucous surfaces, cleanses and soothes the part, and promotes healing. It may be applied to the fingers to facilitate massage, and may be used to lubricate the hands or surgical instruments. *In collapsible tubes of two sizes.*



TRADE MARK

'DARTRING' BRAND PRODUCTS

'Dartring'



(TRADE MARK)

The 'Dartring' Brand appears on all labels of the genuine original Lanoline products

'Dartring' Lanoline.—The highly-purified fat of lambs' wool. Emollient, protective, soothing. Will not support germ life, and never becomes rancid. Supplies the skin with the fat natural to it. *In 1 lb. and 7 lb. tins.*

'Dartring' Lanoline Cold Cream.—Can be used for all the purposes of ordinary cold cream, to which it will be found greatly superior. *In 2 oz. pots.*

'Dartring' Lanoline Pomade.—A useful cosmetic, and a safe and effective stimulant of the growth of the hair. *In 2 oz. pots.*

'Dartring' Toilet Lanoline.—A necessity at the toilet table. Used in roughness, redness, sunburn and other conditions of the skin caused by the cold winds of winter or by the heat of summer. Its ready absorption by, and softening effect upon, the tissues, render it an effective agent, in continued use, for the removal of wrinkles. Applied to cuts, abrasions, burns, etc., it allays pain, and promotes ready healing. It should always be employed by nurses, whose hands are liable to be affected by antiseptic solutions. *In specimen boxes, and in collapsible tubes of two sizes.*

'Dartring' Lanoline Toilet Powder.—A soothing, emollient and hygienic dusting powder, closely resembling the natural fat of the human skin, which fulfils the function of preserving the integument in a healthy, supple condition. 'Dartring' Lanoline Toilet Powder is the safe powder to use for the tender skin of infants. *In tin boxes.*

'Dartring' Lanoline Toilet Soap.—The most delightful toilet soap that science can provide or refined taste desire. It contains free 'Dartring' Lanoline, which prevents that injurious drying of the skin commonly felt after the use of ordinary toilet soaps. Perfectly free from excess of alkali and specially suitable for the tender skin of infants. Counteracts the unpleasant effects of hard water, cold winds, or scorching sun. *In boxes of three tablets.*

'Dartring' Lanoline Ichthyol Soap.—This soap has proved of great service in the treatment of skin diseases such as eczema, and in many irritable conditions it is the only soap permissible. *In boxes of three tablets.*

'Dartring' Lanoline Pine Tar Soap.—A valuable emollient and stimulating antiseptic soap, which is employed in psoriasis and other skin affections. *In boxes of three tablets.*

'Dartring' Lanoline Shaving Soap.—The shaving of the skin round the site of a proposed operation frequently has to be done by the nurse. Sufficient lathering, a keen razor and a thoroughly suitable soap are the three essentials, and to meet the last requirement 'Dartring' Lanoline Shaving Soap, which yields a lasting creamy lather, is specially suitable. *Supplied in sticks.*

Dialysed Iron (B. W. & Co.).—A neutral solution of highly basic oxychloride of iron, without the astringent taste or the constipating effects of the ordinary "steel drops." *In 4 fl. oz. and 16 fl. oz. bottles with droppers.*

Diazyme—'Fairchild.'—An efficient diastatic essence. *In 4 oz. and 8 oz. bottles.*

TRADE MARK 'ENULE' BRAND RECTAL SUPPOSITORIES

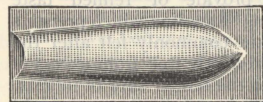
The word 'ENULE' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

The conspicuous advantage of shape possessed by this new brand of suppositories is well dealt with by Professor Caspari in his *Treatise on Pharmacy*, page 390. He says: "The usual shape of rectal suppositories is that of a cone with a rounded apex, but the difficulties of readily introducing these into the rectum, on account of the resistance offered by contraction of the sphincter muscle, has led to the designing of a new shape by H. S. Wellcome, of London, the great advantages of which become apparent when it is remembered that the bulbous end is inserted



'Enule' Suppository after removal of sheath

This shape was originated by B. W. & Co.



'Enule' Rectal Suppository showing sheath of pure tinfoil

This shape was originated by B. W. & Co.

into the rectum first, and that as soon as the greatest diameter,

which is about one-half inch from the point, has been passed, expulsion is impossible by reason of the very contractile force of the sphincter muscle, which renders retention of the ordinary conical shape often so difficult."

The ingeniously-sealed sheath of pure tinfoil in which each 'Enule' Rectal Suppository is encased, prevents contamination and perfectly protects the suppository from the effects of trying atmospheric conditions. It should be stripped off before use by tearing or cutting away the flange. 'Hazeline' Cream may be smeared over the suppository to facilitate introduction, if desired.

'Enule' Suppositories are supplied containing the under-noted medicaments, each kind in boxes of one dozen.

'Enule' Brand Rectal Suppositories must be kept in a cool and dry place

'Enule' Belladonna.—Of three strengths, containing gr. 1/4, gr. 1/2, or gr. 1 of extract of belladonna in each.

'Enule' Bismuth Subgallate.—Astringent, antiseptic and sedative. Each contains gr. 10.

'Enule' Cocaine Hydrochloride.—Each contains gr. 1/2 of this effective sedative.

'Enule' Gall and Opium.—Astringent and anodyne. Each contains gr. 1/4 of opium extract, and gr. 3 of tannic acid, equivalent to gr. 5 of galls.

'Enule' Glycerin.—Contains 95 per cent. of glycerin. Used in constipation. This is a prompt, effectual and painless means of emptying the lower bowel, promoting a more rapid and complete action than does the ordinary soft sticky gelatin suppository. Defecation usually follows within ten minutes to half an hour. Where continued rectal feeding is necessary, the rectum may with advantage be emptied once in every twenty-four hours by means of a Glycerin 'Enule' Suppository. They are made in two sizes, for children and for adults.

'Enule' 'Hazeline' Compound.—Similar in properties to the simple 'Hazeline' Suppository (*see page xxxi*), but of greater power, since it contains other astringent substances (extract of hamamelis and zinc oxide) in addition to 'Hazeline.' Precautions should be taken to prevent the staining of linen.

'**Enule**' '**Hemisine**' (*Trade Mark*).—'Hemisine' is a preparation of the active principle of the medulla of the supra-renal gland, presenting sedative, astringent and hemostatic properties in a convenient and stable condition. (See also page xxxi)

'**Enule**' **Lead and Opium**.—Each contains gr. 3 of lead acetate, and gr. 1 of opium.

'**Enule**' **Meat (Predigested)**.—Children's and Adults' sizes. Contains carefully predigested beef.

'**Enule**' **Milk (Predigested)**.—Children's and Adults' sizes. Contains the peptonised protein of fresh milk.

Both the Predigested Meat and the Predigested Milk 'Enule' Suppositories have proved very successful in rectal feeding. They provide in small bulk a maximum of readily assimilable nutriment. Their use is entirely free from the rectal discomfort caused by the ordinary nutrient enemata, as they are easily retained without their presence being felt, and they do not cause irritation. To combat the thirst common in cases requiring rectal feeding, if the patient be quite unable to swallow, three to six ounces of warm water should be injected occasionally and retained.

'**Enule**' **Morphine and Belladonna**.—Each contains gr. 1/4 of morphine hydrochloride, together with gr. 1/2 of belladonna extract.

'**Enule**' **Morphine Hydrochloride**.—Of three strengths, containing respectively gr. 1/4, gr. 1/2 and gr. 1.

'**Enule**' **Opium Extract**.—Each contains gr. 1 of the official extract, and therefore represents about gr. 1/5 of morphine in addition to the other alkaloids of opium.

'**Enule**' **Quassin, Amorphous**.—Each contains gr. 1/2 of quassin (the bitter principle of quassia wood). This preparation is employed in the treatment of thread-worms, one 'Enule' Suppository being administered on each of twelve successive nights. The 'Enule' product is much more convenient for the nurse to administer than are rectal injections of quassia, more especially with young patients. 'Enule' Quassin is readily introduced, and retained with certainty, and its employment involves no pain or discomfort.

'**Enule**' **Quinine Bisulphate**.—Each contains gr. 5 of quinine bisulphate. Used in cases where quinine, administered by the mouth, causes gastric disturbance.

'**Enule**' **Santonin**.—Each contains gr. 3. One may be inserted at night, and a dose of castor oil or other aperient given by the mouth in the morning.

'**Enule**' **Soap Compound**.—Each contains gr. 7 of pure curd soap and gr. 7 of dried sodium sulphate. This preparation is employed for the relief of constipation.

'**Epinine**' (*Trade Mark*) **Products**.—'Epinine' is a synthetic hemostatic produced as the result of investigations in the laboratories of the 'Wellcome' Chemical Works and possessing the characteristic physiological action of the supra-renal gland. It is approximately one-tenth as active as the supra-renal active principle, according to measurements of their effects on the blood-pressure of the cat. Since it is a synthetic substance forming crystalline salts, its purity can be chemically guaranteed. 'Epinine' preparations are more stable than those of the supra-renal active principle. They may be required for the use of the physician in cases of labour and for operations, to control bleeding, etc. 'Epinine,' 1 in 100, in amber-coloured bottles of 10 c.c. and 25 c.c. 'Epicaine' contains in each 10 minims 'Epinine,' gr. 1/365, and cocaine hydrochloride, gr. 2/11. Used for producing local anaesthesia. It is issued in amber-coloured stoppered bottles of 10 c.c. and 25 c.c., also as 'Vaporole,' 'Epicaine,' each product equivalent to a 10 minim dose. 'Epinine' solutions can be sterilised by boiling in a hard glass or suitable metal vessel.

'**Ernutin**' (*Trade Mark*) **Brand Products**.—'Ernutin' is a preparation presenting all the known active therapeutic principles of ergot. It is physiologically standardised, and is of assured and uniform activity. In midwifery practice the importance of an ergot preparation of assured reliability cannot be over-estimated. 'Ernutin' (Oral), for administration by the mouth. 'Vaporole' 'Ernutin,' for hypodermic and intramuscular injection.



TRADE
MARK

'HAZELINE' PRODUCTS

(Remember the Trade Marks)

'Hazeline' Brand *Hamamelis virginiana*.—A transparent aromatic fluid obtained by distillation from the fresh young twigs of the shrub. The mode of preparation secures the valuable volatile principles, in which the dried drug used for preparing the tincture and fluid extract is deficient. 'Hazeline' is a preparation which has a wide field of utility. It is soothing, astringent and styptic. Applied undiluted to an ordinary cut, it stops the bleeding and keeps the wound clean. Mixed with an equal quantity of water it is a soothing and effective dressing for burns and scalds, and may be daily sponged over the skin of bedridden patients as a precaution against bed-sores. A tablespoonful added to the water greatly increases the enlivening effect of a wash, either for nurse or patient, and a little sprayed over coverlet or carpet freshens up the atmosphere of the sick-room. 'Hazeline' may also be used as an embrocation, or applied as a compress on flannel freshly wrung out of hot water, or mixed with an equal quantity of warm water as an injection. Internally, one to three teaspoonfuls may be given as an astringent in hæmorrhage from the stomach; it may also be applied with advantage locally in bleeding from the nasopharynx. For external or internal use, 'Hazeline' is entirely harmless. *In bottles of 4 fl. oz. and 16 fl. oz.*

'Hazeline' Cream.—Combining as it does the astringent, styptic and anodyne properties of 'Hazeline' with the penetrating and emollient qualities of pure wool-fat (which closely resembles the natural fat of the human skin), 'Hazeline' Cream is a great improvement on ordinary cold creams. It renders the skin smooth and elastic, and is especially useful in irritation of the skin which may lead to bed-sores, and for abrasions, chapping, insect stings, etc. Those who frequently employ antiseptic solutions should use 'Hazeline' Cream regularly, to prevent or remove the roughness of the skin which such solutions are liable to induce. *In glass pots, and in collapsible tubes of two sizes.*

"'Hazeline' Snow."—A cooling, soothing and healing application, containing a high percentage of 'Hazeline.' It is particularly agreeable for

toilet purposes, inasmuch as it contains no glycerin or fat, and is neither sticky nor greasy. It removes all roughness and redness, abrasions, chaps and similar disfigurements. *In glass pots.*

'Hazeline' Suppositories.—Soothing and astringent. *(Trade Mark)* These suppositories contain pure 'Hazeline.' They do not stain linen. *In boxes containing 12.* *(See also 'Emule' 'Hazeline' Compound, page xxvii)*

'Hemisine' *(Trade Mark)*, r in 1000.—This solution, the result of continued experiment and research, represents the supreme activity of the medulla of the supra-renal gland. *Issued in amber-coloured stoppered bottles of 5 c.c. and 10 c.c. (See also 'Emule' 'Hemisine,' page xxviii; 'Soloid' 'Hemisine,' page xxxvii)*

Inhaler, Ammonium Chloride.—*(See 'Vaporole' Brand products, page liii)*

TRADE
MARK

'KEPLER' MALT PRODUCTS

NOTE.—Many attempts are made to imitate 'Kepler' Malt Products, and it is necessary to take precautions against substitution, as malt preparations vary considerably in dietetic value.

'Kepler' Malt Extract is a powerful digestive, and a highly-nourishing tonic food. It is prepared from the finest winter-malted barley, and has a very pleasant flavour.

To children, 'Kepler' Malt Extract is most acceptable. Added to warm gruel or porridge, its digestive properties are soon demonstrated by the increased fluidity of the food. It imparts to all farinaceous foods an agreeable flavour and sweetness, whilst its digestive power greatly assists the assimilation of their nutritious principles. The testimony of the medical journals is unanimous as to the excellence of 'Kepler' Malt Extract. *In bottles of two sizes.*

"It is the best known and, in this country, the most largely used extract of malt. It is as distinct an advance in therapeutics as was the introduction of cod liver oil."—*Lancet.*

'Kepler' Malt Extract with Beef and Iron.—Presents iron in a readily assimilable form, with the nutrient as well as the stimulating properties of beef.

'Kepler' Malt Extract with Cascara Sagrada.—A preparation of value where conditions are complicated by a tendency to constipation.

'Kepler' Malt Extract with Chemical Food (Phosphates Compound).—This preparation, which is a highly improved form of the popular Parrish Syrup, is a very valuable nutrient tonic.

'Kepler' Malt Extract and Hæmoglobin.—Hæmoglobin, the iron-containing constituent of the blood, is held by some to be more easily absorbed than any other preparation of iron. Combined with 'Kepler' Malt Extract it is presented in a condition which ensures assimilation without disturbance of digestion. Each fluid ounce contains Hæmoglobin, gr. 8½.

'Kepler' Malt Extract with Hypophosphites.—A preparation which, on account of its tonic and tissue-forming properties, has a very wide range of usefulness.

'Kepler' Malt Extract with Iron

'Kepler' Malt Extract with Iron and Quinine Citrate

'Kepler' Malt Extract with Iron Iodide

'Kepler' Malt Extract with Iron, Quinine and Strychnine (Easton).—

Four valuable preparations which are of great service in anæmic or debilitated conditions. The two containing quinine are of particular utility in convalescence from malaria or other recurrent fevers, in which cases they are also of value on account of their prophylactic action.

'Kepler' Malt Extract with Pepsin

'Kepler' Malt Extract with Pepsin and Pancreatin.—

These are particularly useful and acceptable preparations in cases which are complicated by digestive insufficiency.

'Kepler' Malt Extract with Phosphorus.—This is an excellent vehicle for the administration of phosphorus, which is by this means given in a most active form for the exercise of its recuperative powers on brain and nerve tissues.

'Kepler' Solution (of Cod Liver Oil in Malt Extract).—The finest cod liver oil incorporated in 'Kepler' Malt Extract. For those patients whose digestion is easily upset, 'Kepler' Solution is indicated when cod liver oil is required. Owing to its agreeable flavour, it is readily taken even by young children. Rapid assimilation is assured. *In bottles of two sizes.*

"An ideal form for the administration of fat. The taste of the oil is agreeably disguised, its nutritive qualities are greatly increased, and it is rendered easy of digestion."—*British Medical Journal.*

'Kepler' Solution with Chemical Food (Phosphates Compound).—Each fluid ounce contains iron phosphate, gr. 2; calcium phosphate, gr. 3; sodium phosphate, gr. 1/4; and potassium phosphate, gr. 1/4.

'Kepler' Solution with Hypophosphites.—The hypophosphites are of marked value in many depressed conditions of the system. Combined with cod liver oil and 'Kepler' Malt Extract their efficiency is greatly increased. For weakly, ill-nourished, small-framed children, 'Kepler' solution with Hypophosphites is ideal. *In bottles of two sizes.*

'Kepler' Solution with Iron Iodide.—Each fluid ounce contains iron iodide, gr. 2.

'Kepler' Solution with Phosphorus.—Each fluid ounce contains pure phosphorus, gr. 1/64.

Kola Compound, 'Tabloid' Brand (*formerly known as 'Tabloid' 'Forced March'*).—This preparation contains the combined active principles of kola nut and coca leaves. It allays hunger, and prolongs the power of endurance in those undergoing severe mental strain or physical exertion. Its use in warding off fatigue during military operations entailing great exertion, provided its former well-known name. *In bottles of 25 and 100.*

'Lanesine,' 'Dartring' Brand.—For counteracting insect stings. A small quantity to be thoroughly rubbed into the wound, and the surrounding skin. *In collapsible tubes.*

Lanoline.—(See 'Dartring' Brand Products, pages xxv and xxvi)

Laxative Fruit, 'Tabloid' Pastille.—A palatable and efficient aperient, painless and certain in action. (See also page xli) *In boxes of two sizes.*

Menthol Snuff, Compound (B. W. & Co.).—Contains menthol, eucaine, ammonium chloride, bismuth oxychloride, 'Epinine' hydrochloride, camphor and lycopodium. Very effective in catarrhal conditions of the nasal mucous membrane, relieving congestion and the feeling of stuffiness in the head. It appears to have the power of arresting a "common cold," if used at the outset. *In enamelled tins resembling old-fashioned black-and-gold snuff boxes.*

'Nizin'—A zinc salt of sulphanilic acid possessing antiseptic (Trade Mark) properties. It is soluble in water, and, in solutions of the strengths recommended for use, is non-irritating and non-toxic. Used in conjunctivitis and other eye affections, and as an injection. *In 1 oz., 4 oz. and 16 oz. bottles.*

'Opa' Liquid Dentifrice.—Aromatic and antiseptic, containing salol, eugenol, 'Pinol' and other active agents. 'Opa' is an efficient and valuable dentifrice, and a pleasant and stimulating mouth-wash. The difficulty of keeping the mouth and teeth "surgically" clean, makes 'Opa' an essential in nursing practice. A few drops may be sprinkled on the tooth-brush, or diluted with a glassful of water. *In bottles containing 2 fl. oz. and 4 fl. oz. (with sprinklers).*

'Panopepton.'—A solution of beef and bread peptone. A (Trade Mark) concentrated predigested food and stimulant. *In 6 oz. and 12 oz. bottles.*

'Paroleine.'—An odourless, colourless, tasteless and stable (Trade Mark) oil, chiefly used as a solvent. It may, with advantage, be applied to sore arms after vaccination.

'Pepsencia.'—For preparing digestive junket, curds and (Trade Mark) whey. *In 4 oz. and 8 oz. bottles.*

Peptogenic Milk Powder.—For preparing a food for infants, which is practically identical with human milk. *In bottles of two sizes.*

'Peppule' Brand Pepsin, gr. 1 and gr. 3 (sugar-coated). *In bottles of 25 and 100.*

'Peppule' Brand Pepsin and Zymine (sugar-coated). *In bottles of 25 and 100.*

'Peppule' Brand Pepsin, Bismuth and Zymine (sugar-coated). *In bottles of 25 and 100.*

'Peppule' Brand Zymine, gr. 3 (sugar-coated). *In bottles of 25 and 100.*

'Peppule' Brand Zymine Compound ('Zymine,' Bismuth and Ipecacuanha) (sugar-coated). *In bottles of 25 and 100.*

Peptonising Tubes.—(See 'Zymine' Peptonising Tubes, page liv)

'Phenofax' (Trade Mark) Brand Carbolic Acid Ointment.—Presents the valuable antiseptic, anæsthetic and healing properties of pure phenol (of which it contains 4 per cent.) in a combination specially convenient for application. 'Phenofax' Brand Carbolic Acid Ointment relieves itching, and cleanses and soothes the part. Its emollient nature and antiseptic power make it an excellent lubricant for the hands, and for catheters, etc., in obstetric and general surgical nursing. *In glass pots.*

'Saxin' (Trade Mark).—Now extensively used in the place of saccharin (to which it is superior in flavour), as a sweetening agent in the dietary of patients suffering from gout, diabetes, obesity, etc. It passes through the system unchanged. On account of its portability, concentration and permanence, 'Tabloid' 'Saxin,' gr. 1/4, is a valuable adjunct to the stores of travellers, tourists, picnic parties, etc., in place of sugar, than which it is some 600 times sweeter, each product being equivalent to an ordinary lump of sugar. *In bottles of 100, 200 and 500.*

Sodium Citrate, gr. 2 and gr. 5.—Milk treated with sodium citrate forms in the stomach a light, finely-divided, flocculent curd, which is easily digested. The process is readily carried out, and enables the nurse to provide proper nourishment for a child, who may previously have suffered from vomiting, diarrhoea, griping, wasting and symptoms of rickets. The treatment is also employed during the weaning period, and physicians recommend it for adults suffering from pneumonia, gastritis, neurasthenia, etc. 'Tabloid' Sodium Citrate, gr. 2, dissolved in a little water, is added to each ounce of milk. (See also article on "The Feeding of Infants and Children," page 173.) Issued as follows: gr. 2, in bottles of 100; gr. 5, in bottles of 25 and 100.

TRADE
MARK

'SOLOID' BRAND PRODUCTS

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

The following 'Soloid' Brand Products present medicinal and chemical substances which are largely used as antiseptics, astringents, chemical reagents, etc. They are accurate in weight, pure and convenient. Not being intended for internal use, they are issued in the distinctive shape here drawn. By simply dissolving them in water, the lotions and solutions in ordinary use are quickly prepared. In some cases (those of potent poisons) they are further distinguished from drugs intended for internal administration by the addition of a harmless artificial colour, which, by tinting the fluid in which they are dissolved, forms an additional safeguard against mistakes; also by the distinctive shape of the bottles and cartons in which they are packed (*see page 101*).



B. W. & Co. Products are prepared with materials of exceptional purity.

'Soloid' Brand Alum, gr. 10.—A useful astringent in sore throat, as a mouth-wash, lotion, etc. *In bottles of 100.*

'Soloid' Brand Argyrol, gr. 1 and gr. 5·45.—Furnishes a non-irritating antiseptic lotion for bathing the eyes, and for injections. Valuable for applying to the eyes of the new-born child. Gr. 1 in 11 minims, or gr. 5·45 in one drachm, of water forms a suitable strength. *In tubes of 6 and 12, respectively.*

'Soloid' Brand Boric Acid, gr. 6, gr. 15 and 1 gramme.—A non-irritating antiseptic, largely used in solutions for dressings, washing wounds, etc. 'Soloid' Boric Acid, gr. 6, is perfumed with otto of rose. One dissolved in an ounce of warm water forms a solution of boric acid in rose water of suitable strength for eye-lotions, etc. 'Soloid' Boric Acid, gr. 15, being very convenient, is largely used for preparing antiseptic solutions, injections, etc. One product to each ounce of hot water forms a saturated solution for antiseptic purposes in general. *Gr. 6 in bottles of 25, gr. 15 in bottles of 50, and 1 gm. in bottles of 25 and 50.*

'Soloid' Brand Boric Acid and Zinc Sulphate.—Astringent in addition to the antiseptic properties of the

preceding preparations. Perfumed with otto of rose. *In bottles of 25.*

'Soloid' Brand Carbolic Acid (Phenol), gr. 5, gr. 20, gr. 60 and 1 gramme.—One of the most generally useful antiseptics. Of great service in operations, and for cleansing instruments, etc. 'Soloid' Carbolic Acid is the most convenient means yet devised for preparing antiseptic, deodorising and disinfecting solutions. The measuring or weighing of a somewhat intractable and dangerous substance is avoided, since the 1 in 20 (5 per cent.) solution is readily prepared by agitating one gr. 60 product in 2-3/4 oz. of warm soft water till entirely dissolved. The solution may then be further diluted to any degree desired. *Gr. 5 in tubes of 25, gr. 20 in tubes of 12, gr. 60 in tubes of 6, and 1 gramme in tubes of 10.*

'Soloid' Brand Chinosol, gr. 1·75 and gr. 8·75.—This is used as a non-poisonous alternative to carbolic acid, and is, weight for weight, a more powerful antiseptic. 'Soloid' Chinosol, gr. 8·75, in half a pint, or gr. 1·75 in 2 ounces, of water, yields a solution of 1 in 500, which is stated to be equal in effect to 1 in 40 solution of carbolic acid. *Both strengths are supplied in bottles of 25, and gr. 8·75 also in bottles of 100.*

'Soloid' Brand Corrosive Sublimate* (Hydrarg. Perchlor.), gr. 1·75, gr. 8·75, gr. 17·5, 0·5 gramme and 1 gramme.—A powerful germicide and poison. For the preparation of solutions for douches, cleansing purposes, disinfection, and for sterilisation of the skin or of sponges, etc. Gr. 1·75, dissolved in 4 oz. of water, gr. 8·75 in a pint of water, and gr. 17·5 in a quart of water, yield solutions of a strength of 1 in 1000. *The gr. 1·75 strength is supplied in bottles of 100, gr. 8·75, gr. 17·5 and 0·5 gm., in bottles of 25 and 100; and 1 gm., in tubes of 10 and bottles of 25 and 100.*

'Soloid' Brand 'Hemisine' (Trade Mark), 0·0012 gramme and 0·005 gramme.—Presents the active principle of the medulla of the supra-renal gland in a dry, soluble condition. It is perfectly stable in all climates. Active solutions may be made at the moment required by means of 'Soloid' 'Hemisine,' as follows: One 0·0012 gramme product dissolved in 1·2 c.c. (20 minims)—or one

* See Caution on pages 101 and 111, with reference to POISONS

0.005 gramme product in 5 c.c. (84 minims)—of sterile distilled water, produces a solution containing one part of 'Hemisine' in 1000 of normal saline. It is advisable to prepare only the exact quantity required. Solutions of 1 in 100,000 to 1 in 1000 are employed for general use. *Each strength is supplied in tubes of 6.*

'Soloid' Brand Lead and Opium Lotion.—One or more, in hot water, to make a sedative anodyne lotion of the required strength. The lotion should always be shaken before use. *In bottles of 25.*

'Soloid' Brand Lead Subacetate, gr. 10.—Two, dissolved in half a pint of distilled water, yield a solution containing approximately the same quantity of lead subacetate (quite different from the ordinary acetate of lead) as an equal volume of the official Liquor Plumbi Subacetatis Dilutus (Goulard Water). 'Soloid' Lead Subacetate is the most convenient and permanent means of preparing this cooling and antiseptic lotion. *In bottles of 25.*

'Soloid' Brand L.G.B.—Provides for the convenient preparation of the standard disinfectant solution of corrosive sublimate. One, dissolved in a pint of water, forms a solution of the character recommended in the Local Government Board Memorandum, 1892, for use in case of cholera, typhoid fever, etc. *In bottles of 100.*

'Soloid' Brand Mercuric Potassium Iodide* (formerly known as Iodic-Hydrarg.), gr. 1.75, gr. 4.37, gr. 8.75 and 0.5 gramme.—This preparation affords the most convenient means of producing what is frequently known as mercury biniodide solution. As an antiseptic it is more powerful than corrosive sublimate, though not so virulent a poison; it does not corrode plated instruments, unless used in a solution stronger than 1 in 2000, and it does not roughen or irritate the skin. One of the gr. 1.75 strength dissolved in four ounces, one of the gr. 4.37 in ten ounces, one of the gr. 8.75 in a pint, or 1 of the 0.5 gramme in 500 c.c., of water, yields a solution of 1 in 1000. This solution is used for nail brushes, rinsing soiled sponges, etc. Diluted with from one to four times its volume of water, the solution may be used as an antiseptic wash for the hands, instruments, etc. *The gr. 1.75 strength is supplied in tubes of 25 and bottles of 100; gr. 4.37 and gr. 8.75 in bottles of 25 and 100; and 0.5 gm. in bottles of 25.*

* See Caution on pages 101 and 111, with reference to Poisons

'Soloid' Brand (Nasal) Sodium Bicarbonate Compound.

—One, powdered and dissolved in two ounces of warm water, forms a spray or douche for the nose, throat and mouth. Useful for nurses, to prevent septic catarrhal discharges, and for use in conditions of thrush, etc., in infants. *In bottles of 25 and 100.*

'Soloid' 'Nizin', gr. 2, gr. 20, 0.15 gramme and 1 gramme.

(Trade Marks) —For an eye-lotion one of the smaller products may be dissolved in two ounces of water; for vaginal and urethral injections a gr. 20 product in ten ounces of water. *The gr. 2 and 0.15 gm. strengths are supplied in bottles of 100; gr. 20 and 1 gm. in bottles of 25.*

'Soloid' Brand Paraform, gr. 5.—For disinfecting, one should be used for every thirty cubic feet of space. Heat on a dish over a spirit-lamp; stop all outlets, and leave undisturbed for at least twelve hours. *In bottles of 100.*

'Soloid' Brand Potassium Permanganate, gr. 1, gr. 5 and 0.5 gramme.—A powerful oxidiser and deodorant. One of the gr. 5 strength in a pint of water forms a solution suitable for a mouth-wash, gargle, lotion, injection, etc., and for disinfecting purposes. This solution is non-poisonous. *The gr. 1 strength is supplied in bottles of 100; gr. 5 and 0.5 gm. in bottles of 25 and 100.*

'Soloid' Brand Potassium Permanganate and Alum.—This product combines the astringent properties of alum (5 grains) with the antiseptic value of potassium permanganate (3 grains). *In bottles of 100.*

'Soloid' Sodium Chloride, gr. 40 and gr. 80.—Two of the lesser strength or one of the greater dissolved in a pint of boiled (sterile) water forms a normal (0.9 per cent.) saline solution for intravenous injection.

'Soloid' Brand Zinc Sulphate, gr. 1 and gr. 10.—One grain, dissolved in one to two ounces of distilled water, yields a stimulant and astringent lotion for the eyes. One to two of the gr. 10 product, dissolved in a pint of water, forms a suitable solution for injections, washing wounds, etc. *Each strength is supplied in bottles of 100.*

'Soloid' Brand Chemicals for Testing Purposes, etc.—These 'Soloid' Brand products are issued of such accurate weight as to render them suitable for use in water, urine and sewage analysis, as test indicators, and as microscopic stains.

TRADE MARK 'TABLOID' BRAND

MINERAL WATER SALTS

(Effervescent, Artificial)

Contain the essential constituents of the various waters in an agreeable and conveniently portable condition, and thus provide the means of converting ordinary water into a refreshing draught of the desired mineral water.

Compared with the bottled waters, they have many advantages. They keep well and always yield a perfectly



fresh water; they are more pleasant, as the draught is effervescent and exhilarating.

When required in full effervescence the 'Tabloid' Brand products should be powdered before being added to the water.

'TABLOID' BRAND CARLSBAD (Sprudel) SALT

'TABLOID' BRAND KISSINGEN SALT

'TABLOID' BRAND SELTZER SALT

'TABLOID' BRAND VICHY (Grande Grille) SALT

'TABLOID' BRAND VICHY (Grande Grille) SALT AND LITHIUM CITRATE

Each kind is supplied in tubes of 25

TRADE MARK 'TABLOID' BRAND PASTILLES

A useful series of preparations of medicaments such as may advantageously be administered in pastilles is issued under the title of 'Tabloid' Brand Pastilles. The list contains several new combinations, which it is believed will be found useful additions to those already in general use.

'Tabloid' Pastilles are prepared in the B. W. & Co. Laboratories under the immediate supervision of expert pharmacists. They contain exactly the stated quantity of medicament in an unaltered and active state, and, dissolving slowly and uniformly, ensure a gradual and prolonged application to the mouth and throat of medicaments presented in a pleasant condition, whilst they may also be employed, in

suitable cases, to obtain a general action. The demulcent basis of the pastille increases the therapeutic effect of the active ingredients.

'Tabloid' Brand Pastilles are packed in attractive metal boxes of two sizes.

'TABLOID' BRAND PASTILLE—

„ AMMONIUM CHLORIDE AND LIQUORICE. Each contains ammonium chloride, gr. 1.

„ BENZOIC ACID COMPOUND. Each contains benzoic acid, gr. 1/2; cocaine hydrochloride, gr. 1/40; codeine, gr. 1/10; ipecacuanha powder, gr. 1/10; menthol, gr. 1/10; red gum, gr. 1/2; and oil of peppermint.

„ COCAINE HYDROCHLORIDE, gr. 1/10

„ CODEINE, gr. 1/8

„ GLYCERIN

„ GLYCERIN AND BLACK CURRANT

„ GLYCERIN, TANNIN AND BLACK CURRANT

„ GLYCERIN, TANNIN, CAPSICUM AND BLACK CURRANT

„ LAXATIVE FRUIT. Each contains extract of senna fruit, gr. 5, pleasantly flavoured. As palatable and acceptable as a sweetmeat. The difficulty the nurse encounters in administering a purgative to children and fastidious patients is entirely overcome by the use of 'Tabloid' Laxative Fruit Pastille. It acts with certainty, and causes neither griping nor other discomfort. It forms a suitable aperient for pregnant or nursing women; the laxative effect is exerted on a suckling infant through the mother's milk.

„ LEMON JUICE

„ LINSEED, LIQUORICE AND CHLORODYNE

Each contains morphine hydrochloride, gr. 1/120

„ MENTHOL, gr. 1/8

„ MENTHOL AND EUCALYPTUS. Each contains menthol, gr. 1/20, and eucalyptus oil, min. 1/2

'TABLOID' BRAND 'PASTILLE'—

- „ MORPHINE AND IPECACUANHA. Each contains morphine hydrochloride, gr. 1/36, and ipecacuanha powder, gr. 1/12
- „ PECTORAL. Contains liquorice, squill, tolu, senega, ipecacuanha, wild black cherry, etc.
- „ PINE TAR COMPOUND. Contains pine tar, terebene, benzoin, tolu, ipecacuanha, etc.
- „ 'PINOL,' min. i
- „ RED GUM AND COCAINE. Each contains red gum, gr. 1, and cocaine hydrochloride, gr. 1/20
- „ RHATANY (KRAMERIA), MENTHOL AND COCAINE. Each contains rhatany (krameria) extract, gr. 2; menthol, gr. 1/20; and cocaine hydrochloride, gr. 1/20

TRADE MARK

'TABLOID' BRAND PRODUCTS

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

Under the 'Tabloid' brand are issued pure drugs and chemicals and their combinations, divided into accurate doses, and prepared with due regard to their therapeutic uses. An abridged list of 'Tabloid' Brand Products is subjoined for reference:—

- 'TABLOID' BRAND— Each contains
- „ Aloes and Iron (B.P. Pill) (*sugar-coated*) - gr. 4
- „ Aloes and Myrrh (B.P. Pill) (*plain or sugar-coated*) gr. 4
- „ Aloin - (*plain*), gr. 1/10, and (*sugar-coated*) gr. 1/2
- „ Aloin Compound (*plain or sugar-coated*).—Aloin, gr. 1/2, with belladonna, ipecacuanha and strychnine.
- „ Ammoniated Quinine (*sugar-coated*).—Containing quinine and ammonium bicarbonate to correspond to one fluid drachm of the official tincture.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

(Each contains

- „ Ammonium Bromide - gr. 5, gr. 10, 0.5 gm. and 1 gm.
- „ Ammonium Carbonate - gr. 3 and 0.25 gm.
- „ Ammonium Chloride and Liquorice, respectively gr. 3 and gr. 2
- „ Ammonium Chloride Compound, ammonium chloride, gr. 1, potassium chlorate, gr. 2, cubebs, gr. 1/4, and extract of liquorice, gr. 1.
- „ Antifebrin (Acetanilide), gr. 2, gr. 5, 0.1 gm. and 0.25 gm.
- „ Antifebrin Compound.—Containing antifebrin, gr. 2; monobromated camphor, gr. 1; and caffeine citrate, gr. 1
- „ Antipyrine (Phenazone) (*sugar-coated*) - gr. 2 1/2
- „ „ (*plain or sugar-coated*) - gr. 5
- „ Astringent Mixture.—Contains catechu, opium, oil of cinnamon, chalk and other astringents, aromatics, and anti-spasmodics, corresponding to the formula of the Board of Health, London, England.
- „ Benzoic Acid Compound.—Contains benzoic acid, gr. 1/2, codeine, gr. 1/10, menthol, gr. 1/10, ipecacuanha, gr. 1/10, cocaine hydrochloride, gr. 1/40, oil of peppermint, min. 1/16, and red gum.
- „ Bismuth Carbonate - gr. 5 and 0.5 gm.
- „ Bismuth and Dover Powder - of each, gr. 2 1/2
- „ Bismuth and Soda - of each, gr. 2 1/2
- „ Bismuth and Soda, No. 2 - of each, 0.25 gm.
- „ Bismuth, Rhubarb and Soda.—Bismuth subnitrate, gr. 3; rhubarb, gr. 1; sodium bicarbonate, gr. 2.
- „ Bismuth Subnitrate - gr. 5, gr. 10, 0.3 gm. and 0.5 gm.
- „ Bland Pill (*sugar-coated*) - gr. 5, gr. 10 and 0.25 gm.
- „ 'Tabloid' Bland Pill ensures the administration of the blood-enriching ferrous carbonate in an unoxidised condition.
- „ Bland Pill and Aloin (*sugar-coated*), respectively gr. 5 and gr. 2 1/2
- „ Bland Pill and Aloin, No. 2 (*sugar-coated*), respectively 0.25 gm. and 0.005 gm.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ Bland Pill and Cascara (*sugar-coated*), respectively, gr. 5 and gr. 2
 „ Blue Pill - - - - - gr. 4
 „ Blue Pill, Colocynth and Hyoscyamus - - - - -
 „ Blue Pill and Rhubarb Compound - - - of each, gr. 2½
 „ Borax - - - - - gr. 5
 „ Boric Acid - - - - - gr. 5
 „ Caffeine Citrate - - - gr. 2, 0.01 gm. and 0.1 gm.
 „ Caffeine Citrate, Effervescent, B.P. - - - gr. 60
 Each contains approximately gr. 2½ of caffeine citrate.
 „ Caffeine Compound.—Caffeine, gr. 1; antipyrine, gr. 3
 „ „ „ No. 2.—Caffeine, 0.05 gm.; antipyrine, 0.25 gm.
 „ Calcium Carbonate Compound.—Containing calcium carbonate, gr. 3½; magnesium carbonate, gr. 2½; and bismuth carbonate, gr. 2.
 „ Calcium Iodo-ricinoleate (Capsule) - - - gr. 3
 „ Calcium Lactate - - - - - gr. 5
 „ Calcium Sulphide (*sugar-coated*), gr. 1½, gr. 1, gr. ½ and gr. 1
 „ Calomel, gr. 1½, gr. 1, gr. ½, gr. 1, gr. 2, gr. 3, gr. 5, 0.005 gm., 0.01 gm. and 0.1 gm.
 „ Calomel and Jalap - - - respectively gr. 1 and gr. 2
 „ Calomel and Sodium Bicarbonate, respectively gr. ½ and gr. 2½
 „ „ „ „ respectively gr. 1 and gr. 5
 „ Calomel Compound (Plummer Pill, B.P.) - - - gr. 4
 „ Camphor Compound Tincture (Paregoric) (*gelatin-coated*), min. 2, min. 5 and min. 15
 „ Camphor Essence (Saturated)
 „ Capsicum Tincture - - - - - min. 1 and min. 5
 „ Capsules—
 (See Calcium Iodo-ricinoleate, *above*; Carbolic Acid, *below*; Castor Oil, *page* xlv; Phenol and Menthol Compound, *page* xlix; Sandal Wood Oil, *page* li; Terebene, *page* lii; Turpentine Oil, Rectified, *page* liii.)
 „ Carbolic Acid (Phenol), *for the throat*, gr. 1, gr. ½ and 0.015 gm.
 „ Carbolic Acid (Capsule) - - - - - gr. 1

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ Carbolic Acid with Slippery Elm.—Each contains Carbolic Acid - - - - - gr. ½
 „ Cascara Sagrada (*Dry Extract*) (*plain or sugar-coated*), gr. 1, gr. 2, gr. 3, gr. 4, gr. 5, 0.15 gm. and 0.25 gm.
 „ Cascara Compound (*plain or sugar-coated*).—Cascara, extract of euonymus dried, iridin, nux vomica, extract of hyoscyamus.
 „ Cascara and Gentian Compound (*sugar-coated*).—Cascara, nux vomica, gentian, belladonna and capsicin.
 „ Castor Oil (Capsule) - - - - - min. 5
 „ Cathartic Compound (*plain or sugar-coated*).—Compound extract of colocynth, calomel, jalap and gamboge.
 „ Chalk, Aromatic Powder with Opium, B.P. - - - gr. 5
 „ Charcoal (Pure Willow) - - - - - gr. 5 and 0.25 gm.
 „ Chemical Food (Phosphates Compound) (*sugar-coated*).—Issued in two strengths, containing the combined phosphates of iron, calcium, sodium and potassium, respectively equivalent to 1/2 and 1 teaspoonful of chemical food. This forms a most convenient and efficient means of administering Parrish Syrup without the disadvantages of acidity and excess of sugar which attend the fluid preparation.
 „ Cinchona Tincture - - - - - min. 30
 „ Citric Acid - - - - - gr. 5
 „ 'Coffee-Mint'.—Stimulant and gastric sedative. A combination of 'Tabloid' Soda-Mint with coffee extract and cerium oxalate.
 „ Colocynth and Hyoscyamus (B.P. Pill) (*plain or sugar-coated*) - - - - - gr. 4
 „ Colocynth Compound (B.P. Pill) (*plain or sugar-coated*), gr. 4
 „ Dover Powder (Ipecacuanha with Opium) (*plain*), gr. 1
 „ „ „ (*plain or sugar-coated*), gr. 5, and (*plain*) 0.25 gm.

'Tabloid' Brand products are plain unless otherwise described.

'TABLOID' BRAND—

„ **Easton Syrup** (*sugar-coated*).—In two strengths, equivalent respectively to one-half and one teaspoonful of Easton Syrup. An excellent means of taking this useful tonic in a reliable and tasteless condition.

„ **Effervescent Products** include Caffeine Citrate Effervescent, B.P., gr. 60; Carlsbad Salt; Kissingen Salt; Lithium Citrate, gr. 5; Lithium Citrate Effervescent, B.P., gr. 60; Lithium Citrate and Sodium Sulphate; Magnesium Citrate (True), gr. 60; Magnesium Sulphate (Epsom Salt) Effervescent, B.P., gr. 60; Magnesium Sulphate Compound; Piperazine, gr. 5; Quinine Bisulphate and Potassium Citrate; Seltzer Salt; Sodium Phosphate Effervescent, B.P., gr. 60; Sodium Salicylate, gr. 5; Sodium Sulphate (Glauber Salt) Effervescent, B.P., gr. 60; Sodium Sulphate Compound; Vichy Salts, etc.

Each contains

„ **Euonymin** (Euonymus Dry Extract, B.P.) - gr. $\frac{1}{2}$ and gr. $\frac{1}{4}$

„ **Euquinine** - - - - - gr. 5

„ **Ferric Chloride**.—One represents the amount of ferric chloride contained in ten minims of iron perchloride tincture, B.P.

„ **Forced March**.—(See Kola Compound, *page* xlvii)

„ **Gentian and Soda Compound**.—Gentian, sodium bicarbonate and ammonium carbonate.

„ **'Gingament' (Trade Mark) (Neutralising Compound)**.—Containing sodium bicarbonate, ammonium bicarbonate, gingerin, saccharin and peppermint.

„ **Ginger Essence** (B.P., '85) - - - min. 5 and min. 10

„ **Glycerophosphates Compound**, dr. $\frac{1}{2}$ and 2 c.c. (*sugar-coated*).—Containing the combined glycerophosphates of calcium, sodium, potassium, magnesium and iron, with pepsin, diastase, kola, and gr. $\frac{1}{100}$ of strychnine glycerophosphate, equivalent to drachm $\frac{1}{2}$ of syrup of glycerophosphates. The equivalent of 2 c.c. of the syrup contains 0.00009 gm. of strychnine glycerophosphate.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

„ **Gregory Powder** (Rhubarb Compound Powder) (*plain or sugar-coated*) - - - - - gr. 5

„ **Grey Powder**, gr. $\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 3, 5, 0.05 gm. and 0.15 gm.

„ **Grey Powder and Dover Powder** - - - of each, gr. $\frac{1}{2}$

„ **Grey Powder and Dover Powder** - - - of each, gr. 1

„ **Grey Powder and Sodium Bicarbonate**, respectively gr. $\frac{1}{2}$ and gr. 2 $\frac{1}{2}$

„ **Grey Powder and Sodium Bicarbonate**, respectively gr. 1 and gr. 5

„ **Guaiaicum and Sulphur** - - - of each, gr. 3

„ **Hæmoglobin** (*sugar-coated*) - - - gr. 5

„ **Hypophosphites Compound** (*plain or sugar-coated*), gr. 1 $\frac{1}{2}$ and gr. 3. The strengths represent respectively one-half and one teaspoonful of standard compound syrup of hypophosphites containing gr. $\frac{1}{16}$ of strychnine hypophosphite in each teaspoonful. This is the best method of administering the hypophosphites, which have so wide a range of usefulness as tonics and "body builders."

"Many of the drawbacks of the Standard Compound Syrup are surmounted by this convenient preparation."—*Lancet*.

„ **Ipecacuanha Powder** - - - gr. $\frac{1}{10}$, gr. 5 and 0.25 gm.

„ **Ipecacuanha deprived of its Emetic Principles** - - - gr. 5

„ **Ipecacuanha Wine** - - - min. 5

„ **Ipecacuanha with Squill** (B.P. Pill) (*plain or sugar-coated*), gr. 4

„ **Iron Carbonate, Saccharated** - - - gr. 5

„ **Iron and Quinine Citrate**, B.P. (*plain or sugar-coated*), gr. 3, and (*sugar-coated*), 0.2 gm.

„ **Jalap** - - - gr. 5

„ **Kola Compound** (*formerly known as 'Tabloid' Forced March*)

„ **Laxative Vegetable** (*plain or sugar-coated*).—Podophyllin, gr. $\frac{1}{4}$, with compound colocynth extract, jalap, leptandrin, taraxacum, hyoscyamus and peppermint.

„ **Lead with Opium** (B.P. Pill) (*plain or sugar-coated*), gr. 4

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ **Liquorice Compound Powder.**—Two strengths, representing respectively gr. 30 and 2 gm. of the B.P. Powder.
- „ **Lithium Citrate (Effervescent)** - - - gr. 5 and 0.25 gm.
The most convenient means of producing effervescent lithia water of standard strength.
- „ **Lithium Citrate Effervescent, B.P.** - - - gr. 60
Each contains about gr. 3 of lithium citrate.
- „ **Lithium Citrate and Sodium Sulphate (Effervescent),**
respectively gr. 5 and gr. 30
- „ **Livingstone Rouser.**—(See Quinine and Rhubarb Compound, *page 1*)
- „ **'Lodal' (sugar-coated)** - - - gr. 1
(Trade Mark)
- „ **Magnesium Citrate (True) Effervescent** - - - gr. 60
This produces the true citrate of magnesia in effervescent solution. It is a pleasant, gentle saline aperient suitable for children or delicate persons.
- „ **Magnesium Sulphate (Epsom Salt) Effervescent, B.P.,**
gr. 60.—Each represents gr. 30 of Epsom Salt.
- „ **Magnesium Sulphate Compound, Effervescent.**—Epsom Salt, Glauber salt, magnesium carbonate and ginger.
- „ **Menthol** - - - - - gr. 4
The menthol is rendered palatable by the addition of a suitable diluent.
- „ **Mineral Waters.**—(See 'Tabloid' Effervescent Artificial Mineral Water Salts, *page xl*)
- „ **Mistura Alba.**—Magnesium sulphate, magnesium carbonate and oil of peppermint. Conveniently presents a most efficient saline purgative combination.
- „ **Nitroglycerin.**—(See Trinitrin, *page lii*)
- „ **Nux Vomica Compound (sugar-coated).**—Nux vomica extract, aloin, iron sulphate, myrrh and soap, of each - - - - - gr. ½
- „ **Nux Vomica Tincture** - (min. 1, min. 5 and min. 10

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ **Opium Tincture, B.P. (Laudanum),** min. 2, min. 5 and min. 10
- „ **Paregoric.**—(See Camphor Compound Tincture, *page xlv*)
- „ **'Pepana' (sugar-coated).**—Pepsin, calcium lactophosphate (Trade Mark) and pancreatin, of each - - - gr. 1
- „ **Pepsin, Bismuth and Charcoal.**—Pepsin, with bismuth carbonate and willow charcoal, of each - - - gr. 2
- „ **Pepsin, Saccharated** - - - - - gr. 5
- „ **Phenacetin** - gr. 1, gr. 5, 0.1 gm., 0.25 gm. and 0.5 gm.
- „ **Phenacetin Compound.**—Phenacetin, gr. 4; caffeine, gr. 1
- „ **Phenacetin Compound, No. 2.**—Phenacetin, 0.25 gm.; caffeine, 0.05 gm.
- „ **Phenacetin and Quinine Compound.**—Phenacetin, gr. 3, with quinine hydrobromide, gr. ½, and caffeine, gr. ¼
- NOTE.—Beware of the substitution of crude imitations of 'Tabloid' Phenacetin, 'Tabloid' Phenacetin and Quinine Compound, and 'Tabloid' Phenacetin Compound.
- „ **Phenol and Menthol Compound (Capsule)** - - -
- „ **Podophyllin** - - - - - gr. 4
- „ **Podophyllin Compound (gelatin-coated).**—Podophyllin, gr. ½, with compound rhubarb pill and hyoscyamus extract.
- „ **Potassium Bicarbonate** - - - - - gr. 5 and 0.3 gm.
- „ ***Potassium Bromide** - - - gr. 5, gr. 10, 0.5 gm. and 1 gm.
- „ **Potassium Chlorate** - - - gr. 5, 0.1 gm. and 0.25 gm.
- „ **Potassium Chlorate and Borax**
- „ **Potassium Chlorate, Borax and Cocaine Compound.**—(See Voice, *page lii*)
- „ ***Potassium Iodide** - gr. 1, gr. 3, gr. 5, 0.1 gm. and 0.5 gm.
- „ **Potassium Nitrate (Sal Prunella)** - - - - - gr. 5
- „ ***Potassium Permanganate** - - - - - gr. 1 and gr. 2
- „ **Quinine, Ammoniated (sugar-coated).**—Each contains quinine and ammonium bicarbonate to correspond to one fluid drachm of the official tincture.

* These 'Tabloid' products should always be administered in solution, after food.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ Quinine and Camphor.—Quinine bisulphate, gr. 1; camphor, gr. $\frac{1}{2}$.
- „ Quinine and Rhubarb Compound (*well known for many years as 'Tabloid' Livingstone Rouser*).—Calomel and quinine bisulphate, gr. 1 of each, with jalap and rhubarb, gr. $1\frac{1}{2}$ of each.
- „ Quinine Bisulphate, gr. $\frac{1}{2}$, gr. 1, gr. 2, gr. 3, gr. 4, gr. 5, 0.1 gm., 0.25 gm. (*plain or sugar-coated*); and 0.5 gm. and gr. 10 (*plain only*).
- „ Quinine Bisulphate and Potassium Citrate (Effervescent).—One, dissolved in a wineglassful of water, forms an effervescing draught containing gr. 1 of quinine bisulphate and gr. 15 of potassium citrate.
- „ Quinine Compound.—Contains the cinchona alkaloids, ipecacuanha, cascara and an analgesic.
- „ Red Gum

This pleasant throat lozenge is flavoured with rose.

- „ Reduced Iron - - - - - gr. 2
- „ Reduced Iron Compound.—Reduced iron, gr. 2, extract of hyoscyamus, gr. 1, extract of nux vomica, gr. $\frac{1}{2}$, oil of caraway, min. $\frac{1}{4}$.
- „ Reduced Iron and Rhubarb Compound.—Reduced iron, gr. 2, extract of hyoscyamus, gr. 1, extract of nux vomica, gr. $\frac{1}{2}$, compound rhubarb pill, gr. 1, oil of caraway, min. $\frac{1}{4}$.
- „ Rhubarb - - - - - gr. 3, 0.25 gm. and 0.5 gm.
- „ Rhubarb Compound Pill, B.P. (*plain or sugar-coated*), gr. 4
- „ Rhubarb Extract - - - - - gr. 2
- „ Rhubarb and Gentian Compound (Stomachic Compound).—Rhubarb, gentian, sodium bicarbonate and peppermint.
- „ Rhubarb and Soda (*plain or sugar-coated*).—Rhubarb, sodium bicarbonate and ginger.
- „ Rhubarb, Soda and Magnesia.—Rhubarb, sodium bicarbonate, magnesium carbonate and ginger.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ Saccharin - - - - - gr. $\frac{1}{2}$
- „ Salicin - - - - - gr. 5 and 0.25 gm.
- „ Salicylic Acid (*physiologically pure*), gr. 3, gr. 5 and 0.5 gm.
- „ Salol - - - - - gr. 5 and 0.5 gm.
- „ Sandal Wood Oil (Capsule) - - - min. 5 and min. 10
- „ Santonin - - - gr. $\frac{1}{2}$, gr. 1, gr. 2, gr. 3 and 0.025 gm.
- „ Santonin and Calomel - - - of each, gr. 1
- „ 'Saxin' (*Trade Mark*), gr. $\frac{1}{4}$
- „ Soda-Mint (*Neutralising*).—Sodium bicarbonate, ammonium bicarbonate and peppermint.

NOTE.—Frequent reports have reached us of the substitution of impure imitations of 'Tabloid' Soda-Mint. These imitations sometimes cause intense nausea. Great care should be taken to detect any attempt at substitution.

- „ Sodium Bicarbonate - - - gr. 5, gr. 10 and 0.5 gm.
- „ Sodium Bromide - - - gr. 5, gr. 10, 0.5 gm. and 1 gm.
- „ Sodium Citrate - - - - - gr. 2

For the treatment of milk in the feeding of infants and invalids (*see pages 147 and 175*).

- „ Sodium Phosphate Effervescent, B.P. - - - gr. 60
- „ Sodium Salicylate (*natural*) - - - gr. 3 and gr. 5
- „ Sodium Salicylate (*physiologically pure*), gr. 3, gr. 5, 0.5 gm. and 1 gm.
- „ Sodium Salicylate (*physiologically pure*), Effervescent, gr. 5
- „ Sodium Salicylate and Potassium Bicarbonate, of each, gr. 5
- „ Sodium Sulphate (Glauber Salt), Effervescent, B.P. gr. 60
- „ Sodium Sulphate Compound, Effervescent.—Containing Glauber salt, cream of tartar, potassium bicarbonate and ginger.
- „ Stomachic Compound.—(*See Rhubarb and Gentian Compound, page 1*)

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ Strophanthus Tincture, B.P. - - - min. 5
- „ Sulphonal - - - gr. 5, 0.25 gm. and 1 gm.
- „ Sulphur Compound.—Precipitated sulphur, gr. 5, and cream of tartar, gr. 1.
- „ Tannin - - - gr. 2½ and 0.1 gm.
- „ Tar (Pure Norwegian Pine) - - - gr. 1
- „ Tar and Codeine - - - respectively gr. 1 and gr. ½
- „ Tea (*see page lviii*)
- „ Terebene (Capsule) - - - min. 5
- „ Thirst Quencher.—A refreshing effervescent, pleasantly flavoured with lemon and 'Saxin.'
- „ Three Bromides, Effervescent.—The bromides of potassium, sodium and ammonium.
- „ Three Syrups (*sugar-coated*).—Easton Syrup, min. 15; compound syrup of hypophosphites, min. 15; Parrish Syrup, min. 30.
- „ Three Valerianates (*sugar-coated*).—Quinine, iron and zinc valerianates, of each, gr. 1. This product retains the full activity of the valerianates, whilst concealing their unpleasant odour.
- „ Thymol - - - gr. 1, gr. 2 and gr. 5
- „ Thyroid Gland (*Standardised*), gr. ½, gr. 1, gr. 1½, gr. 2½, gr. 5, 0.05 gm., 0.1 gm. and 0.3 gm.
- „ Tonic Compound (*plain or sugar-coated*).—Iron, quinine and strychnine.
- „ Trinitrin (Nitroglycerin), gr. 200, 100 and 50, and 0.0005 gm.
- „ Trional - - - gr. 5, 0.25 gm. and 1 gm.
- „ Turpentine Oil, Rectified (Capsule) - - - min. 10
- „ Voice (Potassium chlorate, borax and cocaine compound).
Ideal in irritable and relaxed sore throat.

NOTE.—Beware of imitations of this product.

- „ 'Xaxa' (*Trade Mark*) (Acetyl-salicylic Acid), gr. 5 and 0.5 gm.

'Tabloid' Brand Products are plain unless otherwise described.

'TABLOID' BRAND—

Each contains

- „ 'Xaxa' and Dover Powder - - - of each, gr. 2½
- „ 'Xaxa' and Phenacetin - - - of each, gr. 2½
- „ 'Xaxa' and 'Xaxaquin' - - - respectively gr. 3 and gr. 2
- „ 'Xaxaquin' (*Trade Mark*) (Quinine Acetyl-salicylate), gr. 3 and 0.25 gm.
- „ Zinc Valerianate (*sugar-coated*) - - - gr. 2

Terebene, Pure (B. W. & Co.).—In addition to its internal administration, for which this pure product is particularly adapted, pure terebene may be employed for inhalation, either from hot water, or by inserting in the spout of a bronchitis kettle a little cotton wool saturated with the fluid. A little sprinkled on the floor agreeably freshens the air of the sick-room. *Supplied in 1 oz., 2 oz. and 16 oz. bottles.*

'Vana' (*Trade Mark*) Brand Tonic Wine.—'Vana' Tonic Wine is a scientific combination presenting calcium glycerophosphate and the alkaloids of cinchona bark in a pure and sound wine of excellent quality. It has the specific action of quinine, and possesses the advantage of being readily digested and assimilated by those who experience unpleasant after-effects from the administration of quinine. 'Vana' Tonic wine is an ideal vitalising tonic. It dispels lassitude, overcomes depression, and increases the capacity for mental and muscular effort. It restores strength and promotes a healthy appetite. *Supplied in 16 fl. oz. bottles.*

'Vaporole' Brand Products.—Under this Brand are issued (*Trade Mark*) a series of preparations of exceptional purity specially prepared and packed so as to make them most suitable and readily available for inhalation, hypodermic injection, etc.

'Vaporole' Brand Amyl Nitrite, for Inhalation.—Thin glass (*Trade Mark*) capsules containing min. 3 or min. 5 of amyl nitrite, surrounded by absorbent cotton and enclosed in silken sacs.

'Tabloid' Brand Products are plain unless otherwise described.

'Vaporole' Brand Aromatic Ammonia.—Thin glass capsules (surrounded by absorbent cotton, enclosed in silk netting), containing powerful ammonia pleasantly scented, for use as "smelling salts," and for inhalation in cases of fainting, etc.

'Vaporole' Brand Ammonium Chloride Inhaler.—A unique, compact apparatus which quickly yields perfectly neutral vapour of pure and freshly-prepared Ammonium Chloride. (See illustrations, page lvii) 'Vaporole' Acid for use in above, in boxes of 12. 'Vaporole' Alkali for use in above, in boxes of 12. A nasal attachment for use with this inhaler is also issued separately.

'Vaporole' 'Epinine.'—1 in 100.
(Trade Mark)

'Vaporole' 'Epicaine.'—Hermetically-sealed containers of 1 c.c. solution of 'Epinine' and Cocaine Hydrochloride, suitable for hypodermic injection to produce local anaesthesia.

'Vaporole' 'Ernutin.'—Hermetically-sealed containers of 10 minims and 0.6 c.c. of physiologically standardised sterile solution of the active therapeutic principles of ergot.

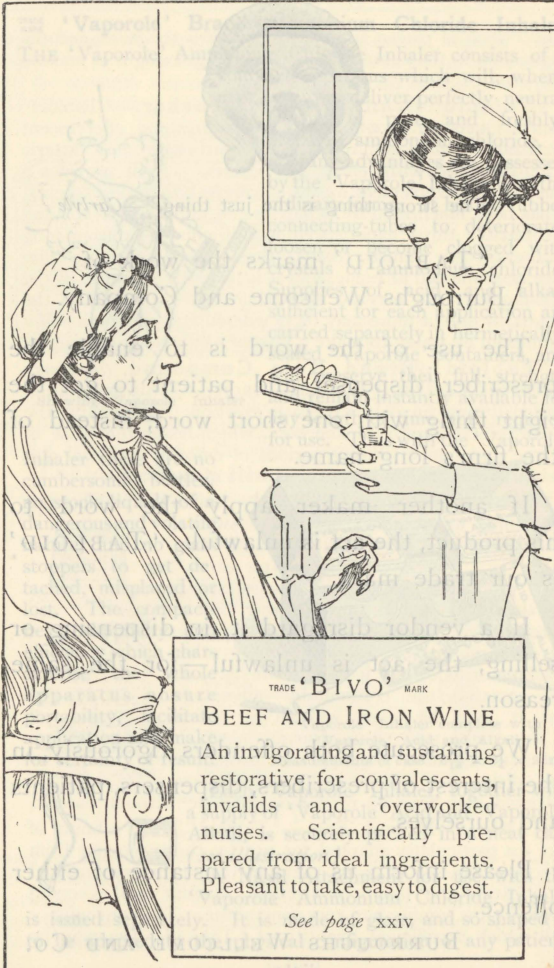
'Vaporole' Pituitary (Infundibular) Extract.—0.5 c.c. and 1 c.c.
In boxes of 6.

Wyeth Beef Juice, The Perfected.—(See page xxiii)

'Xaxa' (Trade Mark) (Acetyl-salicylic Acid).—This product is frequently prescribed by physicians where salicylic acid and the salicylates were formerly employed. 'Xaxa' is a brand name which denotes preparations of acetyl-salicylic acid issued by Burroughs Wellcome & Co. 'Tabloid' 'Xaxa,' gr. 5 and 0.5 gm., presents pure acetyl-salicylic acid, and contains no free salicylic acid. In bottles of 25 and 100.

'Zymine'—'Fairchild.'—The pure digestive ferments of the pancreas. In $\frac{1}{4}$ oz. and 1 oz. bottles.

'Zymine' Peptonising Tubes—'Fairchild.'—The most convenient means of preparing predigested milk, etc. The contents of each tube are sufficient to peptonise one pint of milk in ten minutes at a temperature of about 100° F. In boxes containing 1 doz. tubes.



TRADE 'BIVO' MARK

BEEF AND IRON WINE

An invigorating and sustaining restorative for convalescents, invalids and overworked nurses. Scientifically prepared from ideal ingredients. Pleasant to take, easy to digest.

See page xxiv



"The strong thing is the just thing."—*Carlyle*

'TABLOID' marks the work of
Burroughs Wellcome and Company.

The use of the word is to enable the prescriber, dispenser and patient to get the right thing with one short word, instead of the firm's long name.

If another maker apply the word to his product, the act is unlawful. 'TABLOID' is our trade mark.

If a vendor disregard it, in dispensing or selling, the act is unlawful—for the same reason.

We prosecute both offenders rigorously, in the interest of prescribers, dispensers, patients and ourselves.

Please inform us of any instance of either offence.

BURROUGHS WELLCOME AND CO.

SOME PRODUCTS OF B. W. & CO.

TRADE
MARK

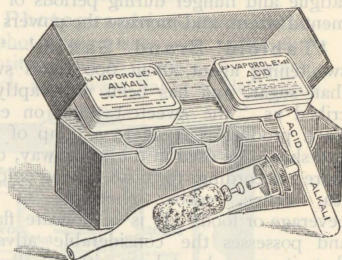
'Vaporole' Brand Ammonium Chloride Inhaler

THE 'Vaporole' Ammonium Chloride Inhaler consists of a compact apparatus which will, whenever required, deliver perfectly neutral vapour of pure and freshly-prepared ammonium chloride.

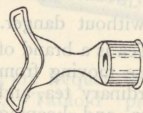


Showing 'Vaporole' Inhaler
in use

Inhaler there are no cumbersome bottles, no stock liquids of a dangerous and volatile nature, and no glass stoppers to get detached, misplaced or lost. The compactness, simplicity and efficiency which characterise the whole apparatus ensure portability, facilitate application and make for certainty of result.



'Vaporole' Inhaler complete with
'Vaporole' Acid and Alkali
Measurements of case: $6\frac{3}{16} \times 2\frac{1}{4} \times 2$ in.



Each 'Vaporole' Inhaler, together with a supply of 'Vaporole' Acid and 'Vaporole' Alkali, is securely packed in a neat case (see illustration).

A Nasal Attachment for use with the 'Vaporole' Ammonium Chloride Inhaler is issued separately. It is made of glass, and so shaped as to be adapted to the physical configuration of any patient.

The orifice is placed in position beneath the nose, and the depression in the centre permits the flanged edges to enclose the outer edges of the nares.

'Tabloid' Brand Thirst Quencher.—'Tabloid' Thirst Quencher is a pleasant and refreshing effervescent preparation composed of sodium bicarbonate and tartaric acid, flavoured with lemon and 'Saxin.' As it provides a compact and convenient means of carrying these ingredients, it has been much used by explorers and military men to allay the terrible thirst experienced in hot climates during long journeys. For similar reasons this convenient preparation may be employed at home, and it is specially valuable in the sick-room. One may be allowed to dissolve slowly in the mouth, or one or more may be powdered and added to half a tumblerful of water to make a pleasant effervescent draught.

'Tabloid' Brand Kola Compound (formerly known as 'TABLOID' 'FORCED MARCH').—This preparation is used during times of excessive exertion. It contains the active principles of kola and coca, which lessen the sense of fatigue and hunger during periods of enforced physical and mental strain, and increase the powers of endurance.

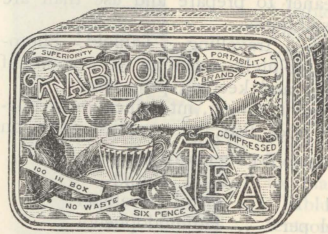
'Tabloid' Brand 'Saxin.'—'Saxin' is a delightful sweetening agent about 600 times sweeter than sugar, and has been most aptly described as "the sweetest thing on earth." Each product is equal to a lump of sugar, and should be used in the same way, one or more, according to taste, being added to tea, coffee, cocoa, chocolate or other beverage or food. It is of delicate flavour, and possesses the considerable advantage that it may be taken without ill effect by those who suffer from diseases in which the administration of sugar is forbidden. The dishes to which such patients are restricted may thus be rendered palatable without danger.

'Tabloid' Brand Tea.—'Tabloid' Tea is a brand of pure tea particularly adapted for use by those moving from place to place. It is more portable than ordinary tea, and as it excels the latter in strength, flavour and keeping qualities, it is coming into very general use. The convenience with which a sufficient quantity of 'Tabloid' Tea may be



Reduced facsimile

apportioned for any quantity of beverage, from a cup upwards, is a great consideration. Two or more, according to the strength required, should be used for each cup of tea. Use fresh boiling water, pour it on the tea in the cup or teapot, stir with a spoon,

Measurements: $3\frac{1}{2} \times 2\frac{1}{2} \times 1$ in.

allow it to stand for two or three minutes, pour the infusion off the leaves, and add sugar, or 'Tabloid' 'Saxin,' and milk to taste. If the cup or teapot be previously heated with hot water, and covered during infusion, less time will suffice, and better results be obtained. 'Tabloid' Brand Tea is issued in two qualities: a pure tea of high quality and delightful flavour, and a *Special Blend* of the very choicest varieties.

'Tabloid' Brand Photographic Chemicals.—These products present photographic chemicals of the finest quality in accurate quantities, and so obviate the necessity for stock solutions, which are always liable to deteriorate,

Measurements: $3\frac{1}{2} \times 2 \times 1\frac{1}{2}$ in.

and are frequently bulky and troublesome to prepare. For use, 'Tabloid' products are simply dissolved in a stated quantity of fluid. Only sufficient solution need be made up for the work in hand, and thus the full activity of fresh baths for developing, toning, etc., is secured.

'Tabloid' Photographic Chemicals are a great boon when dark-room space is limited or when rooms are only temporarily used for photographic purposes. These preparations particularly appeal to lady photographers because they are much easier and cleaner to prepare and use than are ordinary chemicals and solutions.

For use abroad, or when travelling, 'Tabloid' Photographic Chemicals are absolutely essential on account of their portability, reliability and keeping properties.

Pamphlets on development, toning, intensification, reduction, etc., and also full price lists, are supplied gratis on request.

'TABLOID' DEVELOPERS

'Tabloid' Brand—	'Tabloid' Brand—
„ 'RYTOL' Universal (Trade Mark) Developer	„ Ortol Developer
„ Amidol Developer	„ Paramidophenol Developer
„ Edinol Developer	„ Pyro Developer
„ Eikonogen Developer	„ Pyro-Metol Developer
„ Glycin Developer	(Imperial Standard formula)
„ Hydroquinone Developer	„ Pyro-Soda Developer
„ Metol Developer	(Iford formula)
„ Metol-Quinol Developer	

'TABLOID' TONERS

'Tabloid' Brand—	'Tabloid' Brand—
„ Gold Chloride, gr. $\frac{1}{2}$, with Sodium Formate Compound, Sulphocyanide Compound, Sodium Phosphate, Sodium Tung- state, Borax, Sodium Bicarbonate, or Thio- sulphate Compound (Combined Bath)	„ Platinum Toning Com- pound (for matt P.O.P.)
	„ Blue Toner
	„ Copper Ferrocyanide Toning Compound
	„ Green Toner and
	„ Sepia Toner (for bromide prints and lantern slides)

'TABLOID'

HARDENERS, REDUCERS, INTENSIFIERS, ETC.

FOR DIRECT COLOUR PHOTOGRAPHY

'Tabloid' Reversing Compound

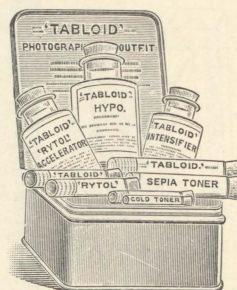
'Tabloid' Colour Plate Intensifier

PHOTOGRAPHIC STAINS, 'SOLOID' BRAND

Blue, Green, Red, Salmon and Yellow

For imparting an appropriate tint to lantern slides, bromide and other prints.

'Tabloid' Photographic Outfit, No. 905 (Registered).—A compact, complete chemical outfit for



'Tabloid' Photographic Outfit
(No. 905)

Measurements: $4 \times 4 \times 2\frac{1}{2}$ in.

developing, toning and fixing. The standard contents are 'Tabloid', 'Rytol' Universal Developer, to make 88 oz. of solution; 'Tabloid' Sodium Thiosulphate (Hypo); 'Tabloid' Chromium Intensifier, to make 50 oz. of solution; 'Tabloid' Gold Chloride with Thiosulphate Compound (Combined Bath), to make 30 oz. of solution; 'Tabloid' Sepia Toner. Contents may be varied as desired.

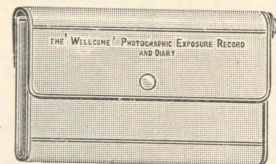
Issued in Rex Red, Royal Blue, Imperial Green or Bright Scarlet Enamelled Metal.

The 'Wellcome' Photographic Exposure Record and Diary

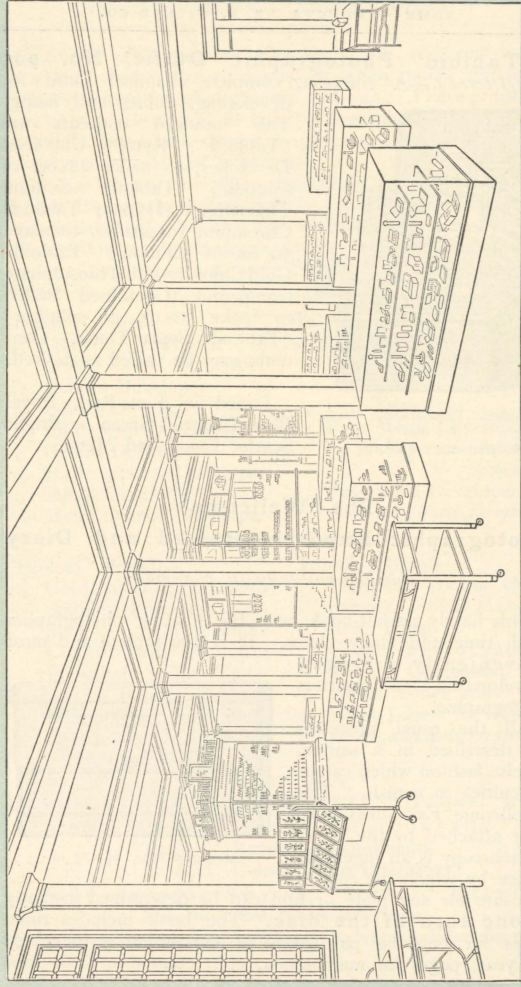
Published annually in November

This handy pocket-book saves the amateur photographer much time and many plates. It is a complete and most conveniently arranged encyclopædia on matters photographic.

All the usual processes are described in a simple, concise fashion which causes difficulties to vanish. The 'Wellcome' Exposure Calculator attached to the cover of each copy is an ingenious device by which the correct exposure for any plate or film can be determined instantly by **one turn of the disc**. The book includes ruled pages for entering particulars of exposures, a diary for the year, pages for memoranda, etc., etc.



Measurements: $5\frac{1}{2} \times 3\frac{1}{4}$ in.



Right Sectional View of B. W. & Co. Exhibition Room at 54, Wigmore Street, London, W.

IN order to place at the disposal of our professional clients the wealth of information acquired during many years of research and experimental work, we have opened an Exhibition Room in the West End of London.

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Here it is possible for us to separate the scientific from the commercial aspect of our work, to offer our wide experience in, First-aid and Nursing equipments to members of the Nursing Profession, and to demonstrate our

products without introducing any suggestion or obligation to purchase.

At this Exhibition Room

54, WIGMORE STREET

LONDON, W.

we shall be glad to supply Nurses with any information which it is in our power to give, and to discuss any suggestions they may desire to offer.


BURROUGHS WELLCOME AND CO.



'KEPLER' SOLUTION
(Trade Mark)
 (OF COD LIVER OIL IN
 MALT EXTRACT)

The best Malt and Oil for patients. Pleasant to take, easy to digest, fattening, strengthening and vitalising.

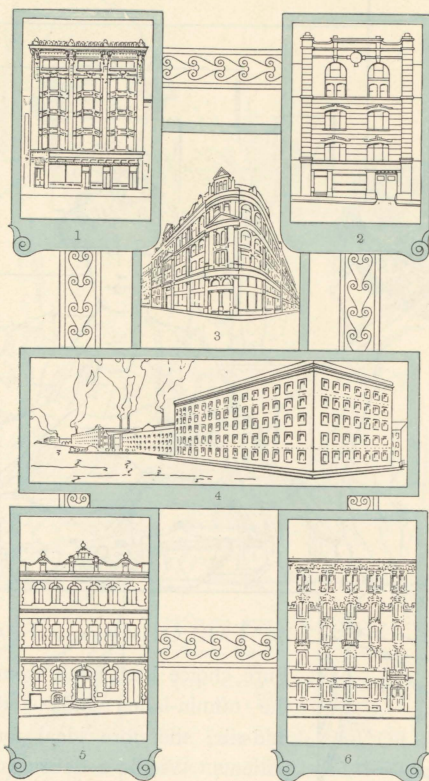
See pages 163 and xxxiii



TRADE MARK **'TABLOID' BRAND TEA**

Pure choice leaf, freed from the tannin-laden stalk and mid-rib; therefore ideal for patients. Yields a delicious, refreshing beverage. Extremely compact and portable.

See page lviii



1—New York. 2—Sydney. 3—London. 4—'Wellcome' Chemical Works, Dartford, nr. London. 5—Cape Town, 6—Milan.

BURROUGHS WELLCOME & CO.'S OFFICES, WAREHOUSES
AND WORKS IN ENGLAND, UNITED STATES OF
AMERICA, AUSTRALIA, SOUTH AFRICA AND ITALY
lxvii

TYPICAL AWARDS

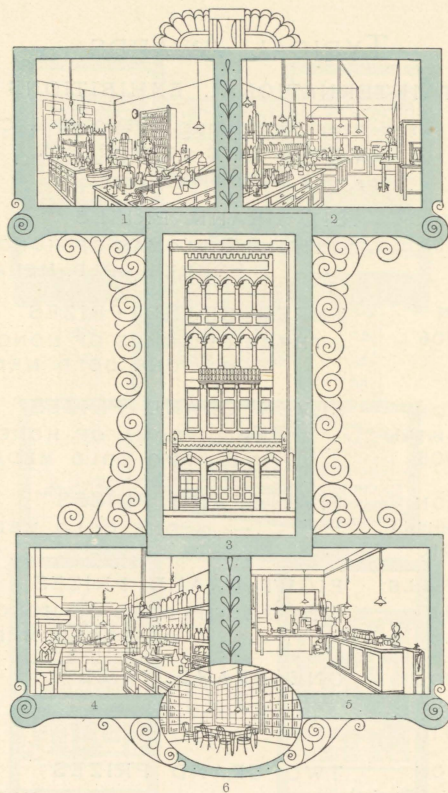
AT INTERNATIONAL EXHIBITIONS

CONFERRED UPON BURROUGHS WELLCOME & Co.
FOR THE SCIENTIFIC EXCELLENCE
OF THE FIRM'S PRODUCTS

LIÉGE 1905	SIX GRAND PRIZES THREE DIPLOMAS OF HONOUR THREE GOLD MEDALS
MILAN 1906	THREE GRAND PRIZES THREE DIPLOMAS OF HONOUR ONE GOLD MEDAL
LONDON (Franco-British) 1908	SEVEN GRAND PRIZES ONE DIPLOMA OF HONOUR TWO GOLD MEDALS
LONDON (Japan-British) 1910	FIVE GRAND PRIZES ONE GOLD MEDAL
BRUSSELS 1910	EIGHT GRAND PRIZES THREE DIPLOMAS OF HONOUR ONE GOLD MEDAL
BUENOS AIRES 1910	ONE GRAND PRIZE
LONDON (Festival of Empire) 1911	TWO GRAND PRIZES ONE GOLD MEDAL
TURIN 1911	EIGHT GRAND PRIZES TWO DIPLOMAS OF HONOUR THREE GOLD MEDALS

MAKING IN ALL

MORE THAN 260 HIGHEST AWARDS



1—First Floor. 2—Second Floor. 3—Exterior of the Laboratories
4—Third Floor. 5—Combustion Room. 6—Library.

WELLCOME CHEMICAL RESEARCH LABORATORIES
KING STREET, LONDON

This Institution is conducted separately from the business of Burroughs Wellcome & Co., and is under distinct direction, although in it a large amount of important scientific work is carried out for the firm.

AWARDS

CONFERRED UPON THE
WELLCOME CHEMICAL RESEARCH
LABORATORIES
AT INTERNATIONAL EXHIBITIONS

ST. LOUIS ONE GRAND PRIZE
1904 THREE GOLD MEDALS

LIÉGE ONE GRAND PRIZE
1905 ONE DIPLOMA OF HONOUR
TWO GOLD MEDALS

MILAN ONE GRAND PRIZE
1906

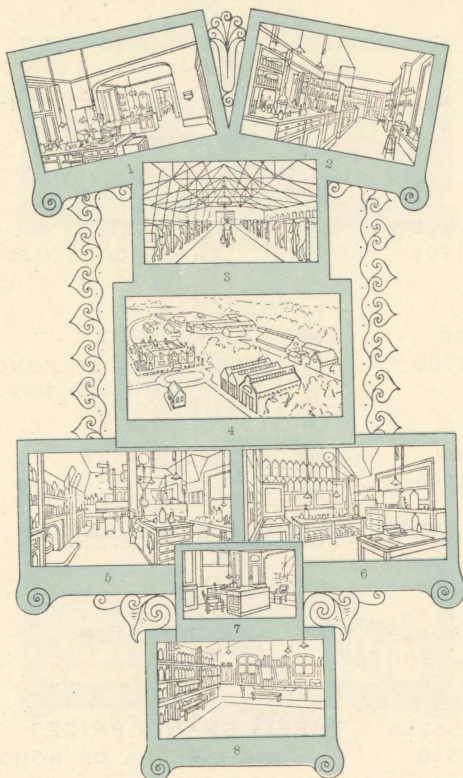
LONDON TWO GRAND PRIZES
(Franco-British)
1908

LONDON ONE GRAND PRIZE
(Japan-British)
1910

BRUSSELS THREE GRAND PRIZES
1910 ONE DIPLOMA OF HONOUR

TURIN THREE GRAND PRIZES
1911 ONE DIPLOMA OF HONOUR

FOR
CHEMICAL AND PHARMACOGNOSTICAL RESEARCH
ETC., ETC.



1—Bacteriological and Pathological Laboratories. 2—Laboratory for Physiological and Bacteriological Chemistry. 3—One of the Stables. 4—General View. 5—Physiological Laboratory. 6—Laboratory for preparing nutrient media. 7—Secretary's Office. 8—Serum Laboratory.

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