the affected wounds or ulcers sometimes generate a subtle excreted matter, transmissible through the medium of the atmosphere, and capable, like small-pox, of exciting like affections in others. In proof of this, Brugmans mentions, that in 1798, when hospital gangrene prevailed in one of the lower wards at Leyden, while the ward above was exempt, an opening for the purpose of ventilation was made in the partition ceiling that divided them, and in thirty hours afterwards three of the patients who lay next the opening were attacked by the disease. Professor Brugmans also ascertained, by analysis of the air in the wards, that the oxygen is diminished, the quantity of nitrogen and carbonic acid increased in proportion, while sulphuretted hydrogen could be detected as being present. From these facts the deduction follows—hospital gangrene, originating as a local disease in a wound or ulcer, can be propagated from one individual to another by transfusion, or inoculation, of a specific morbid poison, and this infectious poison is follows: inflammatory or typhoid type, according to the predisposed state of individuals. 2nd, that in over-crowded hospitals it is also transmissible through the medium of the atmosphere, and that the specific morbid poison excreted by the sorer may follow as the result of constitutional causes, or specific fevers, and is then usually preceded by febrile symptoms of a continued bilious or remittent type.

In the treatment of hospital gangrene it will be necessary to weigh well all the circumstances of its probably local nature, or as the secondary result of primary specific fever, or predisposed scrofulous constitution. The system of treatment must be applied with the greatest vigilance. If the local conditions are of a specific origin, and proceed the constitutional ones, the local remedial measures necessary are applications of various caustic substances, as undiluted nitric acid or caustic potash, which destroy the gangrene, and arrest the absorption of the septic matter into the constitution; vinegar has also been found useful, and is one of the applications recommended by Paulus Ægineta. Lemon-juice is the usual application in the French hospitals, and Mr. Nylaton employs the tincture of iodin with very great benefit. Or when the local disease seems to be the rather result of an excess of unhealthy inflammatory action in a part, the use of various soothing modi can be employed, as finely ground parched, yellow or barley chlorides of lime and soda, with the addition of opium, may be preferable. The latter, while they tend to reduce the excessive inflammatory action, materially arrest, by their chemical agency, the progress of putrefaction and constitutional contamination. Carrot or pumpkin poultices, mixed up with an oily solution of extract of hemlock, will be found to be a very soothing application in warm climates. If the constitutional symptoms be of an inflammatory kind, bloodletting may be requisite; and under all modifications of febrile attacks, saline eliminants of an inflammatory or typhoid type, according to the predisposed state of individuals; 2nd, that in over-crowded hospitals it is also transmissible through the medium of the atmosphere, and that the specific morbid poison excreted by the sorer may follow as the result of constitutional causes, or specific fevers, and is then usually preceded by febrile symptoms of a continued bilious or remittent type.

In the treatment of hospital gangrene it will be necessary to weigh well all the circumstances of its probably local nature, or as the secondary result of primary specific fever, or predisposed scrofulous constitution. The system of treatment must be applied with the greatest vigilance. If the local conditions are of a specific origin, and proceed the constitutional ones, the local remedial measures necessary are applications of various caustic substances, as undiluted nitric acid or caustic potash, which destroy the gangrene, and arrest the absorption of the septic matter into the constitution; vinegar has also been found useful, and is one of the applications recommended by Paulus Ægineta. Lemon-juice is the usual application in the French hospitals, and Mr. Nylaton employs the tincture of iodin with very great benefit. Or when the local disease seems to be the rather result of an excess of unhealthy inflammatory action in a part, the use of various soothing modi can be employed, as finely ground parched, yellow or barley chlorides of lime and soda, with the addition of opium, may be preferable. The latter, while they tend to reduce the excessive inflammatory action, materially arrest, by their chemical agency, the progress of putrefaction and constitutional contamination. Carrot or pumpkin poultices, mixed up with an oily solution of extract of hemlock, will be found to be a very soothing application in warm climates. If the constitutional symptoms be of an inflammatory kind, bloodletting may be requisite; and under all modifications of febrile attacks, saline eliminants of an inflammatory or typhoid type, according to the predisposed state of individuals; 2nd, that in over-crowded hospitals it is also transmissible through the medium of the atmosphere, and that the specific morbid poison excreted by the sorer may follow as the result of constitutional causes, or specific fevers, and is then usually preceded by febrile symptoms of a continued bilious or remittent type.
a theory, but a demonstration, irrefutable as those of Euclid—a demonstration of the fact, that all previous histories of the globe and its living inhabitants were simply fables. That man student; so did Oken, Cuvier, and Geoffroy. Comparative demonstration could not be so disposed of; it admitted of no refutation. The most subtle Jesuit, ever ready with a refutation even of Newton, quailed before the organic remains, observable, traceable, demonstrable, in all forms which live, which have lived, or which may hereafter come into being.

I commenced these inquiries in 1810, and since that moment have devoted myself to the study of anatomy. I have therefore been able to reduce the structure of the fore-foot of the horse to the corresponding parts in man; to compare and to discover the corresponding structures. I felt sure that they must have been formed on one plan; it was a deep conviction, arrived at by no reasoning—instinctive. As might be supposed, my success at that time was not great. The rudimentary fingers in the horse surprised me. Why rudimentary fingers? I asked to myself, a fact in the Natural History of all species. Went back to the original theory of arrested development, at which Cuvier, Oken, Geoffroy, and Cuvier never changed; as at first, so at last; one creation was their motto; unity of organization; unity of type; unity of plan, was their theory. Not so expressed it is true, and variously modified by each, but still adhering to one and the same great idea, the unifying and uniting order of things. With another order will arise a new series of species, also seen and provided for in the existing world. There can be no such thing as arrested development, nor a gradual development of all forms towards perfection. Nature's work is perfect, final, last; and the hypothesis which supports the idea of a development tending to perfection is simply another expression of the doctrine of a final cause. The so-called "arrest of development" in the individual is a doctrine contrary to that of a development tending to perfection, which we call perfect, as belonging to the existing world; the laws of deformation are as constant and regular as the laws of formation, which we call perfect, as belonging to the existing world; this is all. But to enter on this inquiry, a preliminary investigation is necessary. Zoological forms either obey general laws or they do not; they have been formed on one great plan, or on several plans. If the latter be maintained, it ought to be shown in what the plans differ; if the former, the scheme or plans supposed to be existing, are perfect, as belonging to the existing world; if no such plan exist, there exist no laws, which, indeed, in that case, are not required, the scientific basis on which zoological relicts being removed, it would cease to be a scientific problem. Whether life was coeval with the globe or not, is a question essential to the present inquiry. At its appearance it of necessity obeyed those laws which philosophy is called on to investigate. In their essence these laws can never alter; what science teaches. No fossil remains have ever been discovered contradictory of the theory that one great scheme or plan has at all times existed. In a strictly philosophical sense, there could be only one creation; but the real difficulty is to determine what were the zoological forms of that creation. Were they species—that is, races, or did the individuals represent natural families embracing many species? However this may be, one thing is certain: many races or species have ceased to be, whilst others, which were not then so, now live. These are new species merely as regards man, for, in point of fact, distinct species exist not in Nature. They are not included in the great scheme which fills up all voids, all differences, all distinctions. The gap—absence of the link connecting one species, as we call them, with another—man assumes as a positive fact in Nature—an intentional part of her plan; but it is not so, as science will soon demonstrate. Some persons have been troubled with the idea of the convertible of one species into another. It is wholly a labour of supererogation, for no strictly scientific man ever entertained such an hypothesis in the sense assumed by me.

My first step, then, is to establish the doctrine of one great plan or type for all animals; a unity of plan—that is, a type—type "which exists everywhere, but is nowhere to be found." The whole archetypal idea from the formation of organic sun and the possibility of the past, the present, and the future. Individual adult forms simply show the development of that which can exist in union with the existing order of things. The modern phicomors and elasmobranchs, as well as the developed forms of a natural family which once existed under other forms. They are not the mere hereditary descendants of the fossil world, as Geoffroy thought, but forms new and distinct, the same as those which existed in their natural families. The embryo, then, is that which Nature perfects, that to which she looks for the continuation of varied life as it exists and has existed on the globe. The future is wrapped up in the same category. The embryo of any species of any natural family contains within it during its phases of development, all the forms or species which that natural family has ever occupied. In the human, each natural family of the human being consists of one great natural family, or of several? To meddle with that which seems beyond the reach of human man ever entertained such an hypothesis in the sense assumed by me. My first step, then, is to establish the doctrine of one great plan or type for all animals; a unity of plan—that is, a type—place or species that is to be, whilst others, which were not then so, now live. These are new species merely as regards man, for, in point of fact, distinct species exist not in Nature. They are not included in the great scheme which fills up all voids, all differences, all distinctions. The gap—absence of the link connecting one species, as we call them, with another—man assumes as a positive fact in Nature—an intentional part of her plan; but it is not so, as science will soon demonstrate. Some persons have been troubled with the idea of the convertible of one species into another. It is wholly a labour of supererogation, for no strictly scientific man ever entertained such an hypothesis in the sense assumed by me.

My first step, then, is to establish the doctrine of one great plan or type for all animals; a unity of plan—that is, a type—place or species that is to be, whilst others, which were not then so, now live. These are new species merely as regards man, for, in point of fact, distinct species exist not in Nature. They are not included in the great scheme which fills up all voids, all differences, all distinctions. The gap—absence of the link connecting one species, as we call them, with another—man assumes as a positive fact in Nature—an intentional part of her plan; but it is not so, as science will soon demonstrate. Some persons have been troubled with the idea of the convertible of one species into another. It is wholly a labour of supererogation, for no strictly scientific man ever entertained such an hypothesis in the sense assumed by me.
A type being proved to exist, there arises next the question of varieties in zoological forms, embraced within the type. The application of these two inquiries includes all natural history as a science; if applicable to one they are applicable to all forms, man included. The law called "the arrest of development hypothesis" explains nothing, and involves increasing confusion. It has been falsely applied to the species, and the terms "persistence of embryonic forms," although this phrase also is open to manifest objections. The persistence of the webbing of the human fingers to the adult state has been described as an arrest of development, but slowly acquired. It is but short time since that the appearance of the eruption a want of vital power and the humeral artery and median nerve through the passage thus formed an arrested development? Is it even a persistence of embryonic forms? These doctrines are nearly the reverse of those I held. In the embryo I see a perfect, not an imperfect being; its webbing of the human fingers to the adult state has been described as a perfect, not an imperfect being; its terms "persistence of embryonic forms," although this phrase also is open to manifest objections. The persistence of the human embryo, like all its other structures, no matter to what species it belongs, embryonic form is possible which man assumes or has assumed on the earth. The white races are not the more fully developed, and the negro the more imperfectly developed, species of one common natural family. The development of each is perfect in its way, equally so. There is a more perfect developed white man, but a specifically formed brain, developed according to its own specific laws. When in the white races we find developments resembling the negro, and vice versa, these are not arrested developments, but retrogressive, if you will, perfect in their kind. To instance a class of animals, supposed, erroneously, however, to be less complex in their organization than man, lower in the scale, less perfect—the class Fishes; and selecting amongst these, as perhaps, most familiar to my readers, the natural family Salmonidæ,—if in this natural family, divisible into three sub-families, I find the young of any of the species of any of the sub-families strictly to resemble one another, yet the group of species materially to differ from any other, it by no means follows that the one is a species less developed than another. In the embryo—in the young—all are alike; each offers in itself the specific characters found in all the embryo, the salmon; for example, is of no species; it is of all. Take from it one set of characters, it becomes the salmon; deduct another, you have the forel; subtract a third, you have the trout. In every embryo, as of every species, we see the principle of the species pertaining to that natural family at least. The destruction, then, by geological or other phenomena, of all the species, saving one, of any natural family, would not necessarily extinguish that natural function, and yet the group of species, there exist the elements for the reappearance, perhaps under modified forms, of all the extinct species. As of fishes, so of man: one natural family—one embryonic form, equal to the protection of, so I see, is inseparable with the essential conditions of existence in time and space.

ON THE

PROCESS OF THE ELIMINATION OF MORBID POISONS.

By JOHN GEO. FRENCH, Esq., F.R.C.S.,
SURGEON TO THE INFIRMARY OF ST. JAMES'S, WESTMINSTER.

The term elimination is of modern date. It is not contained in Johnson's Dictionary; it is derived from el minium (from the threshold), and is sufficiently expressive. It is used by Mason Coxe and the most approved of the exanthematous eruptions which he says are "eliminated upon the surface as the best and most salutary outlet."

The process of the elimination of morbid poisons from the system is not only a subject but little understood, but serious errors are generally entertained upon it. It may be remarked that all knowledge in the medical art has ever been but slowly acquired. It is but a short time since that the repair of wounds was ascribed to inflammatory action, although it is now perfectly understood that inflammation is but a dis-

Notes:

1. "Now, the theory of purgatives which act on the blood is this:"
   - About fifteen years since the late Dr. Gregory met a most intelligent friend of his in consultation on a case of small-pox. The conversation turned on the earliest part of the disease, and the general observance made in the west. "Well," said the doctor, "this case is but slightly confounded, there is but little fever, and no considerable phlegm." "My friend," said I, "will you allow me to tell you that it is right to apprise you that our patient will die on Friday"—an event verified by the patient. "I have not seen this disease," said the doctor, "in spite of all I have been able to do, in the attempt to check it, but I cannot help attributing this to his intimate knowledge of the natural history of the disease. He recognised in the appearance the approach of the end: his death no other cause than that of the poison which was intended to accomplish the elimination of the poison.

2. "I am induced to bring this subject before the profession, in consequence of the publication of Dr. George Johnson's views on the use of castor oil in the treatment of cholera, and I deem it necessary to show the fallacies of the reasoning by which it is recommended, and of the data by which it is supported. Dr. Johnson refers to the blood as the recipient of the poison, and says (page 257), "It would, perhaps, be difficult to prove that any purgative medicine has the power of directly assisting the escape of the cholera poison, or the products of that process from the blood into the intestines." I am, however, doubting the amount of this process of elimination, the greatest possible care should be taken by the physician that no interference on his part should meddle with its accomplishment. "A meddlesome midwifery is a bad midwifery" was the frequent explanation of an able teacher of midwifery; and a meddlesome physician is equally certain. In fact, the difference between one physician and another consists in the success with which each interprets Nature. Let us illustrate this position by reference to a case of small-pox. In all the cases the treatment founded on the theory that the skin secretes or separates the poison from the body, and it is on the knowledge of what this process is, as revealed by direct clinical observation alone, that the physician is of service conducting a case in the path of recovery. It is a matter of history, that all attempts on his part at elimination have ever been attended with but one result—namely, that of aggravating the disease; while successful treatment depends wholly on the power of the constitution in eliminating, and on the resources of the practitioner in removing all obstructions to the completion of this process; and, when this is accomplished, to sustain the patient during the extensive reparation which the skin has to undergo from the ravages of the disease. The application of these two inquiries includes all natural history. For many years I have preferred using the term "elimination" instead of "purging." It is derived from e limine (from the threshold,) and is sufficiently expressive. It is used by Mason Coxe and the most approved of the exanthematous eruptions which he says are "eliminated upon the surface as the best and most salutary outlet." The process of the elimination of morbid poisons from the system is not only a subject but little understood, but serious errors are generally entertained upon it. It may be remarked that all knowledge in the medical art has ever been but slowly acquired. It is but a short time since that the repair of wounds was ascribed to inflammatory action, although it is now perfectly understood that inflammation is but a dis-