parts in 100. It would be difficult to exaggerate the good effects of this application in the treatment of uterine disease. When applied to superficial granular erosions on the cervix, it often heals them in a marvellously short space of time; one or two applications sometimes effecting a cure. In a recent paper by Dr. Lloyd Roberts of Manchester, published in the *Practitioner*, its value is dwelt upon; and I can fully corroborate what he says upon this point. It is also much used by my colleague Dr. Priestley. For application to the interior of the uterine cavity, it has some special advantages. Neumann of Vienna has pointed out that, when applied in a concentrated form, it causes the tissues to shrink and mummify, but that they do not swell; nor does it seem to produce an eschar, as do the stronger caustics, such as potassa fusa, acid nitrate of mercury, and even nitrate of silver. We can thus use it freely, without fear of inducing contraction of the cervical canal—a result which has occasionally followed the use of other agents. Nor does it give rise to pain. I have occasionally heard patients complain of a sense of discomfort for a time, which was probably due to the passage of the probe. As a matter of precaution, I always recommend patients to remain in bed or on the sofa for the rest of the day on which it has been used. In obstinate cases, I use it once a week, applying it freely not only to the interior of the cervical and uterine cavity, but also over any superficial erosions that may exist. The latter always soon begin to heal and skin over; but the true uterine catarrh generally requires a somewhat protracted treatment. I can say, however, with regard to this plan, what Courty also says with regard to his own favourite treatment of leaving a piece of solid nitrate of silver within the uterine cavity—that I have not yet met with a case of uterine leucorrhœa, even though of many years' standing, which has not either been entirely cured or very greatly ameliorated. Nor have I ever seen any bad consequences follow a plan which some may be inclined to consider hazardous. That it requires some caution in its application, I not only willingly admit, but even insist on. If forcible attempts be made to pass any instrument through the os uteri, especially if the operator is not accustomed to uterine manipulations, very unpleasant consequences are likely enough to follow. But, if due gentleness be used, and the cases be properly selected, I believe the treatment to be perfectly safe.

When the uterus itself, or the cervix, is enlarged and hypertrophied, which is very frequently the case when the disease is of old standing, much benefit is to be obtained from the use of pledgets of iodised cotton, placed next the cervix through the speculum, and maintained in position by another pledget of cotton soaked in glycerine. This I use, when necessary, in conjunction with carbolic acid; and in this way even considerable thickening and hypertrophy is rapidly absorbed. In one or two cases, in which there has been an excessive amount of granular erosion on the exterior of the cervix—the hypertrophied papillæ projecting in a fungous or cockscomb-like growth—I have derived much advantage, and considerably hastened the cure, by making a few superficial incisions before applying the carbolic acid. This is the plan advocated by Huguier in his *Lectures on Uterine Catarrh*, and approved by West; and, although seldom necessary, it does undoubtedly prove of occasional service. It acts by allowing the caustic to reach the deeper seated follicles, which might otherwise escape its influence.

My object has been to advocate the systematic use of a method of treatment too much neglected in this country, and regarded with unfounded dread; and my end will have been fully attained, if I induce any member of this Association to try a plan which will, I feel convinced, give them material aid in dealing with some of the most obstinate cases that come under our observation.

ON ATROPHY INDUCED BY CICATRIX, AND ITS SURGICAL VALUE.

By T. PRIDGIN TEALE, M.A., F.R.C.S., Leeds.

IN the following paper I propose to link together a series of facts which show that such tissues as derive their nutrition by vessels passing through cicatrices have a tendency to waste—a tendency which does not become evident until some time has elapsed from the completion of cicatrization, and continues for months, or even years, until, in some instances, the dependent tissue fades away completely. My attention was first clearly fixed upon this interesting process by the following case, described in my paper "On the Relief of Symblepharon by Transplantation of Conjunctiva" (*Ophthalmic Hospital Reports*, vol. iii, Oct. 1861).

CASE I.—Joseph Jessop, a puddler, was struck in the right eye by a hot cinder, which produced a slough of conjunctiva and cornea, ending in symblepharon. The middle portion of the lower eyelid (about one-third of an inch in breadth) was adherent to the eyeball, and encroached

upon the cornea to which it was cicatrised, so as to conceal the lower margin of the pupil, and slightly to interfere with vision.

In April 1860, twelve months after the accident, the following operation was performed, in order to release the eyeball from the adherent lid. The eyelid having been freely dissected from the globe, so as to set the eye at liberty, two flaps of conjunctiva from the uninjured upper part of the eyeball were dovetailed into the site of the symblepharon, but the portion of skin forming the apex of the symblepharon was left adherent and undisturbed on the cornea.

Shortly after the operation, the isolated skin left on the cornea began to waste, becoming more flat and translucent, and in eighteen months it had vanished, leaving the cornea transparent, and flattened from the loss of substance sustained at the time of the injury. The site of the adherent skin could only be detected by oblique illumination; sight had improved; and the movements of the eyeball were restored by the interpolated conjunctiva.

Here we have the clear and unmistakable fact, that a portion of skin became atrophied and disappeared, after its isolation by cicatrix had been rendered complete by operation. Let us first inquire into the nature of the process by which these changes are brought about, and then ascertain whether the same principles may not be applied in many departments of surgery.

We are familiar with the fact that cicatrix, visible on the surface of the body, both during its formation and for months or years after its completion, contracts. This process of contraction, going on over the whole cicatricial surface, not only draws parts together, but narrows and strangles the channels which pass through the cicatrix, lessening the calibre of arteries, strangling veins at their exit, and thereby rendering them visible on the surface of the scar. Under this same process, a rectum may be strictured after too free destruction of its circumference for cure of piles; or the urethra may be strictured after amputation of the penis where the surgeon fails to provide against such a result. All these characters of visible cicatrix are familiar to us on the surface of the body. Are they less true for unseen—subsurface cicatrix, that layer of new material by which, for instance, a transplanted flap of skin grows to the raw surface made by the surgeon? Such a flap, on its transplantation, is at once glued to its new bed by a material in which vessels are rapidly formed, which aid in maintaining in life and vigour the skin thus suddenly deprived of a great portion of its blood-supply. These newly formed, numerous, and vitally important vessels, traversing as they do cicatrix, are doomed, after a time, to be one by one reduced or cut off. Does the flap, then, become atrophied? Certainly not. The gradual lessening of the blood-supply traversing the treacherous cicatrix is balanced by the compensating enlargement of the unembarrassed vessels of the sound pedicle, whereby the flap is enabled to maintain its normal nutrition—in fact, to "keep up to the mark." Sever the pedicle, however, and isolate thereby the transplanted portion of the skin completely by cicatrix, and the intruded flap, like the island of skin on the cornea in the case of symblepharon, must lose condition, and undergo atrophy with a completeness proportioned to the curtailment of its blood-supply.

It will now be my endeavour to show that the principles here worked out in one case of symblepharon are neither exceptional nor limited to a single class of cases, but that additional illustrations may be drawn from—*a*, Symblepharon; *b*, Cutaneous Nævus; *c*, Subcutaneous Nævus; *d*, Rhinoplastic Surgery; *e*, Growths encroaching upon the Cornea; *f*, Syndactomy. Finally, I shall deduce suggestions for the treatment of tumours not amenable to extirpation by the ordinary methods.

a. SYMBLEPHARON.—Case I.—Joseph Jessop (quoted above).

CASE II.—James Spence (*Ophthalmic Hospital Reports*, loc. cit.); inner third of lower lid adherent to eyeball, and extending over the cornea as far as the pupil.—March 30th, 1861. Transplantation of conjunctiva, and isolation of skin adherent to cornea.—August 19th, 1861. The apex of skin left on the cornea was becoming atrophied, being transparent at its margin, and shrunk to the level of the surface of the cornea, on which originally it formed a considerable prominence. I have recently seen Spence, and find that two-thirds of the skin which covered the cornea has disappeared, leaving the cornea transparent.

CASE III.—Joseph Wood; extensive conjunctival symblepharon, concealing the lower half of the cornea and greater part of the pupil. Reading, with face to light, No. 20 Jäger; with back to light, barely No. 19.—January 1864. Transplantation of conjunctiva.—April 2nd, 1864. The opacity was nearly level with the cornea. He read letters of 16.—April 30th. He read words of 16.—August 13th. He read 16 easily with his back to the light; words of 16 with face to the light. About one-eighth of an inch of the margin of the opacity was nearly transparent. In this case of very extensive adhesions of lid and conjunctiva to cornea, we have an improvement of vision carefully gauged by test-type, an improvement directly and intentionally brought about by

cutting off the blood-supply by the interpolation of a cicatrix between the opaque mass and its chief base of nutrition.

b. CUTANEOUS NÆVUS.—In 1863, I removed by enucleation a large nævus, overlying and perhaps involving the parotid gland, in a child aged four months (*vide Medico-Chirurgical-Transactions*, vol. 1). A portion of the skin covering the tumour was involved in the disease. In reflecting the skin covering the tumour, I preserved as part of the flap the nœvoid skin, with the firm belief that in course of time this diseased skin would regain its natural appearance. The result justified my anticipation. One-third of the nœvoid skin sloughed, but the remainder became united to the surface of the wound by cicatrix, and, at the end of three months, had the usual appearance of cutaneous nævus, being of the size of a shilling. At the end of a year, *all appearance of the nævus had faded away*.

A similar result has been obtained by Mr. Furneaux Jordan, who has devised an operation for nævus of the face and orbit, which he has mentioned in the *Lancet* (1866, vol. ii, p. 618). "Where the skin is not greatly implicated, I made an incision through it, and completely through the nævus, dividing it into two halves; then each half of the tumour is cut out piecemeal by curved scissors. *The partially implicated skin will in time become natural.*"

In treating cutaneous nævus of the face and eyelid, Messrs. Curling, Startin, Brodhurst, and others, have used subcutaneous ligature, which, whilst preserving the diseased skin, has induced its recovery by the production of internal cicatrix and the destruction of the subcutaneous part of the disease.

The principle involved in these changes is explained and applied as follows in my paper on enucleation of nævus. "When a portion of skin covering a nævus is involved in the disease, it is not necessary to sacrifice such diseased skin, as it may be dissected off the surface of the tumour, and, being retained as a cover to the wound, will regain gradually its normal appearance. The vessels of the nœvoid skin are mainly fed from the nævus itself, but, after removal of the nævus, the diseased skin becomes united to the deep surface of the wound by new material, *i.e.*, by internal cicatrix. There being in all cicatricial structures a tendency to contract, the new vessels which pass through the cicatrix become gradually more narrowed and choked off, until at last the diseased skin, being mainly dependent for nutrition on its lateral continuity with healthy skin, is brought back to its normal state and appearance. This change does not occur immediately after the operation, but goes on gradually, in the course of months, simultaneously with the process of contraction of the cicatrix."

c. SUBCUTANEOUS NÆVUS.—Believing that in the various methods of destroying nævus by subcutaneous ligature, setons, nitrate of silver, probes, etc., the great factor of cure is the internal cicatrix, which, by its contraction, cuts off in all directions that free and excessive intercommunication of blood-vessels on which the special character and growth of nævus depends, and induces a retrograde nutrition; *i.e.*, atrophy, I determined to put this notion to the test in the following case.

Enoch Lee, aged two years, was brought to the Leeds Infirmary on account of a nævus in the skin over the left shoulder-blade. At birth of the size of a shilling, the nævus had grown, chiefly subcutaneously, until it had attained the size of a five-shilling piece, and stood out from the surface as a prominent tumour. A portion of the surface, of the size of a two-shilling piece, was red, being involved in the disease. The nævus could be felt as a well-defined flat tumour, with distinct margin, extending under the skin beyond the area of diseased skin.

March 1867. Having introduced the wire of the *écraseur* at the margin of the tumour, I passed the chain round the edge of the whole tumour, and then split it into two, like a muffin. Henceforth, the two halves must reunite by cicatrix, and their freedom of vascular intercommunication must be progressively more and more reduced by the ever contracting cicatrix.—May 22d. All suppuration resulting from the operation had ceased.—October 1869. Since the cessation of suppuration, the tumour has gradually decreased, and is now perfectly level with the surrounding skin. With the hand, unaided by the eye, its situation can hardly be detected; all distinction from surrounding tissue has ceased, there being no trace whatever of the defined margin of the subcutaneous portion. The discoloured skin is not materially altered.

This operation was specially devised and carried out in order to put to the test the views which I held as to the effect of cicatrix in producing atrophy, and which I clearly explained to my class before performing the operation. The result has amply justified both my anticipations and the practice based upon them. The only traces of operation to be found are two small white scars where the wire of the *écraseur* was passed through the skin.

d. RHINOPLASTIC SURGERY.—The principles which teach us how to produce wasting of nævus and other structures which we wish to remove, in rhinoplastic operations teach us how to avoid the induction of atrophy

in transplanted structures which we wish to retain in good condition. About the time when the wasting process in the first-mentioned case of symblepharon was nearly complete, I was on the point of making a new nose for a young woman named Wood, and was somewhat discouraged to find, on reference to authors, that in some instances the new organ, though satisfactory at first, after a time deteriorated and became atrophied. (*Vide Skey's Operative Surgery*, p. 524): "It will occasionally happen after some days from that of the operation, that the new structure begins to lessen in size, and continues to diminish, till it becomes almost absorbed."

It seemed to me that the custom of cutting through the pedicle after the transplanted skin had become established in its new bed, must be a source of atrophy and disappointment. I therefore deduced the rule that *the pedicle of a transplanted flap of skin ought never to be severed*. In two cases in which I have made a new nose, the pedicle was left undisturbed, and the new organ remained without deterioration for several years.

e. GROWTHS ENCRDACHING UPON THE CORNEA.—I have several times acted upon this principle in dealing with growths partly upon the cornea and partly over the sclerotica. Instead of dissecting the growth from the cornea, I have aimed at inducing atrophy of the portion lying on the cornea by dissecting the conjunctival portion down to the sclerotica, and so placing an intercepting cicatrix between the growth and the vessels of the sclerotica and conjunctiva. The following case is an illustration, though not a perfect one.

CASE.—Fennel Parrott, a sailor, aged 20, noticed a small growth near the caruncle of the right eye, which, as it grew, encroached upon the cornea, on which structure it was double the size of a hemp-seed. At the end of six months it was dissected off the cornea, but the growth returned; and twelve months later he put himself under my care.

October 26th, 1866. Leaving the corneal portion intact, I dissected off the conjunctival portion and neighbouring conjunctiva down to the sclerotica, so as to bind that portion of cornea by cicatrix.—December 27th, 1866. The growth had almost disappeared. In a letter just received, he tells me that there has not been any further improvement.

I have mentioned this case not as proving the success of the treatment, but as indicating a direction which, in certain cases, our surgical efforts can be aimed, feeling confidence in the soundness of the principle laid down.

f. SYNDECTOMY, OR CIRCUMCISION OF CONJUNCTIVA.—The operation of syndectomy may be fairly claimed as an illustration of the subject of this paper. Introduced by Dr. Furnari, for the treatment of inveterate pannus, a disease of the conjunctival surface of the cornea, characterised by the development of great vascularity, this operation consists in the excision of a band of conjunctiva and subconjunctival tissue, one-eighth of an inch in breadth, producing thereby an annular cicatrix immediately surrounding the diseased cornea, which, as it heals and contracts, cuts off the free and unnatural communication of vessels by which the diseased condition is kept up. Here we have the intentional production of a cicatrix which so reduces the over-supply of blood-vessel to a diseased surface, as to restore that surface to health.

NOTE ON THE IMPROVEMENT OF CERTAIN CORNEAL OPACITIES AFTER DIVISION OF SYNECHIA ANTERIOR.—Akin to this subject, though not strictly embraced in the title of the paper, is one to which I have for some time directed attention.

In some cases in which, from sloughing or perforation of the cornea by ulcer, the iris had become involved in the resulting opaque scar, I had noticed that iridectomy, performed for the purpose of artificial pupil, or of relieving the iris from its drag upon the cornea, appeared to induce improvement and fading of the corneal opacity. Mr. Hulke tells me that he has also observed the same. This impression, and the definite results obtained by cutting off blood-supply in cases of symblepharon, led me, in future cases of synechia anterior, to detach the iris from the cornea, with the expectation that, when deprived of direct vascular connection with the iris, the opacity would diminish. I have obtained this favourable result in several cases, in which there has been an improvement of vision that could be measured by test-types. In some instances, no improvement could be observed. I hope at a future time to publish these cases more fully.

SUGGESTIONS FOR TREATMENT OF ABNORMAL GROWTHS NOT AMENABLE TO EXTIRPATION BY ORDINARY METHODS.—From the illustrations already given, I trust that I have shown that we possess, in the contractile character of cicatrix, and its effect on blood-vessels which traverse it, a power of controlling the nutrition of neighbouring parts which may be made subservient to the purposes of surgery. There are many abnormal growths of slow progress, such as fibrous tumours of the uterus, which at some period of their career become almost stationary—nay, even recede and undergo atrophy, in which the nutrition is so nicely poised that a small variation of nutritive power determines their increase or

decrease. The wasting of large overgrown tumours, dating from a serious illness, is a case in point. The shrinking of large fibroid tumours of the uterus, after boring and internal bruising of their structure, as employed by Mr. Baker Brown, seems to me to be consequent upon the production of internal cicatrices, which so far interfere with their freedom of blood-supply as to initiate the wasting process. The subcutaneous crushing and breaking up of tumours (*Cyclopædia of Surgery*, vol. iv, p. 403), employed by French surgeons in some cases with success, is another instance in which internal—i.e., subcutaneous—destruction of a portion of a tumour has induced the wasting of the whole. One case is thus described (*Cyclopædia of Surgery*, loc. cit.): "I saw Thierry treat in this manner a lipoma of the mastoid region in a Paris banker, who was anxious that the operation should leave behind no visible cicatrix. The tumour was no larger than a small pullet's egg, yet it required for its crushing three sittings, at intervals of three weeks. Resolution took place at last, and, after a lapse of six months, the tumour had completely disappeared, but Thierry entirely failed in another case, etc."

In all these instances we see much to encourage us to inquire whether we may not so plant—if I may use the word—cicatrices around or in the interior of tumours which we cannot, or prefer not to extirpate, as to determine the balance of nutrition against growth, and in favour of atrophy. May we not hope, like the French surgeon, to be able to cause the disappearance of tumours without the production of visible cicatrix?

In conclusion, let me say that, should any readers of this paper have met with facts which seem to confirm the views here expressed, I shall esteem it a favour if they will kindly communicate them.

ON LOCOMOTOR ATAXY.*

By J. LOCKHART CLARKE, M.D., F.R.S., etc.

THE effects on the voluntary control of muscular movements produced by dividing the posterior roots of the spinal nerves, as shown in the experiments of Claude Bernard, Brown-Séquard, Leyden, and others, are of great importance in reference to the muscular incoordination of locomotor ataxy. (*Leçons sur la Physiologie et la Pathologie du Système Nerveux*, 1858, tom. i, p. 261.)

In one of his experiments on a frog, Claude Bernard cut the posterior roots of the nerves that supply both the anterior and posterior limbs. When placed in water, the animal remained quite motionless. If it was excited by pricking its head, which retained sensibility, it executed certain movements with all its limbs; but these movements were of a disorderly character, and not at all in that harmony with each other which is necessary for coordinate movements, such as swimming. In order to ascertain whether these disorderly movements were due to cutaneous anæsthesia, or to the loss of muscular sensibility, Bernard stripped off the skin from all the limbs of another frog, in which the nerves had not been divided. When placed in water, the animal moved with all its usual agility, and swam in its accustomed manner. Moreover, Bernard divided the cutaneous nerves of a sparrowhawk and of a dog, without producing any disorder of the voluntary movements.

On another occasion, he cut the posterior roots of the lumbar nerves on the right side in a young dog. The left leg executed perfectly the movements of progression; while the right leg, which was rendered insensible by the operation, was dragged along after it, and a little raised and somewhat bent. In another dog, he divided two or three of the posterior roots on the right side in the lumbar region. The animal was no longer able to support itself on the corresponding leg, which was in a state of semiflexion. Nevertheless, movements of an apparently involuntary character occurred in that leg whenever the animal moved. Moreover, we are told that the limb, which was completely deprived of its sensibility, was reduced to extreme weakness.

The experiments of Rosenthal and Leyden, with regard to the effects of division of the posterior roots on the voluntary movements, tend to the same general conclusions as those of Claude Bernard. There are two experiments, however, that deserve especial notice. In one of these, three posterior roots were divided in the lumbar region on the right side, and only one root on the left side. The right leg became paralysed, while the left leg retained its power. When the animal was placed in water, the left leg assumed its usual position, while the right leg hung extended and inert. In another frog, two posterior roots were divided on the left side only, in the lumbar region. When the corresponding limb was forcibly extended, it remained in that position,

unless the opposite limb was excited. The act of jumping was awkwardly performed, because the limb that was deprived of its sensibility was not drawn up.

Let us now turn to some similar experiments performed by Brown-Séquard. In 1855, this distinguished physiologist published an account of the effects observed in several cases after dividing a variable number of the posterior roots of the spinal nerves. (*"Recherches Expérimentales sur les Voies de Transmission des Impressions Sensitives," etc., Mémoires de la Société de Biologie*, 1855, p. 31 et seq.) The most important of these experiments are the following.

EXPERIMENT I.—In a guinea-pig, rabbit, or dog, he cut all the posterior roots of the five or six last dorsal and two first lumbar nerves on the right side. After allowing the animal to rest for some time, he found that the power of voluntary motion was diminished in a remarkable degree in the right hind leg, but that its sensibility was exalted, while, on the contrary, it was diminished in a very evident manner in the left hind leg. Moreover, he found that the blood-vessels were rather dilated in all parts of the body behind, and on the same side as, the section of the nerves; and that the temperature of those parts was raised from one to three degrees above that of the corresponding parts of the opposite side. These are the same effects as he had long since found after section of one lateral half of the spinal cord in the dorsal region. Immediately after section of the nerves, the phenomena just described are strongly marked; so that sometimes the paralysis of voluntary movement seems to be complete; but, after some hours, these effects diminish.

EXPERIMENT II.—When the same roots were cut on the opposite side, sensibility and voluntary movement were retained only in a slight degree in the posterior extremities. At the end of eight or ten hours, the animal could execute tolerably strong voluntary movements, but was still unable to support itself on its hinder extremities.

EXPERIMENT III.—All the posterior roots were cut from the caudal extremity to the superior part of the lumbar region. After the operation, it was found that the sharpest irritation of the posterior roots, or of the posterior columns of the cord from the extremity to about the middle of the lumbar region, did not appear to cause any pain; but, starting from the latter point, sensibility began to be manifested, and continued to increase in degree in proportion as the irritation approached the part of the cord which retained its nerves entire.

EXPERIMENT IV.—In a new-born puppy, after the carotids were tied, the spinal cord was divided across close to the medulla oblongata. The cord was then laid bare through nearly the whole extent of the dorsal, and through the upper part of the lumbar, region. After having satisfied himself that the reflex function was still active, and that pinching the skin of one of the limbs was followed by movements in all four, Brown-Séquard cut the posterior roots of the eight last dorsal and two first lumbar nerves. After the operation, he found that pinching the skin of the anterior limbs excited reflex movements in those limbs only, and that irritation of the hind limbs was followed by movements in those limbs alone. Artificial respiration was then practised. The reflex function was exalted; but the movements were still limited to either the anterior or the posterior limbs, according as the one or the other was excited. There was, therefore, no longer any transmission of nerve-force from the posterior to the anterior extremities, or vice versa; although the spinal cord itself between the lumbar and cervical enlargements remained uninjured.

Of the remarkable phenomena resulting from these experiments, Brown-Séquard could then see only one explanation, which I shall not lose time in stating, since he has, I think, most properly abandoned it for another, which rests upon a better foundation. This latter explanation is given in an interesting paper in the *Journal de Physiologie* for 1861, in which the most probable cause of the phenomena resulting from the experiments is stated to be an alteration in the nutrition of the spinal cord, in consequence of irritation of the sensory or excitomotor nerves. (*"Remarques sur quelques Points de la Physiologie de la Moelle Epinière et du Cerveau," Journal de Physiologie*, tom. iv, 1861, p. 584 et seq.) That irritation of the posterior roots does really produce this effect, appears to be satisfactorily proved. For instance, crushing with forceps those of a single pair on one side is followed by the same effects as division of the corresponding lateral half of the spinal cord; so that irritation of the centripetal nerve-fibres weakens the action of the corresponding lateral half of the cord at the place of insertion of roots that are irritated.

If the posterior roots of a pair of dorsal nerves be irritated on each side, anæsthesia and paralysis of the posterior extremities immediately follow; and, if several pairs of nerves be excited, the same kind of effects increase in proportion to the number of nerves and the degree of irritation. Moreover, it was found that the functions of the cord, as a centre of reflex action, and as a conductor of voluntary movements and

* Continued from page 345 of number for September 25th.