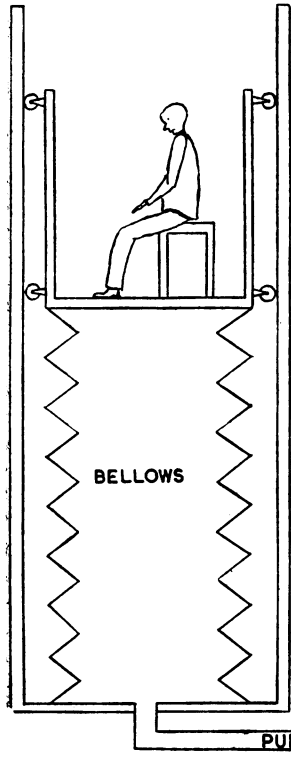


Simply, our lift consists of a bellows similar to that of an old-fashioned camera, but very much bigger. On top of the bellows is a cage, and when the bellows is blown up, the cage rises. Theoretically, a good-quality



cylinder vacuum-cleaner should be able to raise four men if it blows into a "bellows" one yard square. We have a crude working model and we know it will easily raise two well-built chaps. Of course, it is slow and takes about two minutes to go up nine feet. The sketch shows this very simple idea, and it seems to us to have certain in-built virtues:

1. The load is evenly distributed over a good area of floor joists.
2. If the patient can climb one step, or the wheelchair be pushed up a slight ramp, no "lift-well" is needed.
3. The power unit, being a cylinder vacuum-cleaner, is cheap, ubiquitous, and easily serviced.

4. Because the "bellows" contains so much air, if the "electrics" fail in any way, or if even a six-inch rent appears in the "bellows," the cage just saunters slowly down at about a foot a minute.

5. The scaffolding of the affair bears no serious weight. The carriage is pushed up by the bellows and the scaffolding simply guides it into a straight path. Thus the scaffolding can be made to measure from any of the commercialized "angles."

6. Because the "bellows" fill the space below the "cage," no one can get under it and one of the hazards of a conventional lift is eliminated.

We think that because the design is adaptable, and because the important components are already mass-produced, it might be possible to provide a "one-patient" lift in most homes for £150 to £200. It would depend, to some extent, upon whether the lift could be installed in a stair-well or whether one joist would have to be cut and braced in order to fit it into the corner of a room. Our working model raises us effectively, using a seven-year-old vacuum-cleaner, but it needs a good deal of refinement. Our colleagues in the Faculty of Engineering are willing to develop the idea properly if there is real evidence that a lift, at such a price, could contribute materially to the well-being of patients with severe respiratory, cardiac, or locomotor troubles. We think that such patients sometimes leave well-liked homes to move to bungalows and, in so doing, spend more money than this.

We would be very grateful if doctors who have views on this sort of thing would spare time to drop us a postcard so that we may conclude whether or not the idea is worth pursuing.—We are, etc.,

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E. A. PASK.
N. BURN.

Fate of the Claudicator

SIR,—While reading the very interesting article on "The Fate of the Claudicator" by Mr. A. Singer and Professor Charles Rob, who present 109 cases of aorto-iliac thrombosis in the age group 38–77 (August 27, p. 633), I was reminded of an article dealing with the diagnosis and treatment of renal-artery stenosis by Professor W. S. Peart and his colleagues which you printed about a month previously (July 30, p. 327). Commenting on the incidence of renal-artery stenosis Professor Peart and his colleagues tell us "of 160 cases investigated in this way [renal arteriography, usually by the selective method], a renal artery lesion was demonstrated in 10. In eight of the other cases reported here [they report 22 cases altogether], renal artery narrowing was revealed at aortography performed for other reasons (usually iliac or aortic stenosis . . .)" [My italics.] This group included at least six "claudicators," all of whom were moderately hypertensive. This constitutes the precise group of cases which appear to have been dealt with in the article of Mr. Singer and Professor Rob, and I was keenly looking for a chance finding of a few cases of renal-artery stenosis in their series of 109 cases (which in no way is an insignificant number) during investigation of aorto-iliac thrombosis, and which incidentally included 51 cases of hypertension as well; however, I did not find any.

It is quite possible they have not mentioned this finding, if any, because it had not much relevance in the present context. But it would be very interesting to know whether they observed such findings, specially in view of the associated hypertension in about half the cases, a few amongst whom might have been candidates for Professor Peart and his colleagues' investigations and relevant therapy. Incidentally, the latter are on the staff of the same hospital as Mr. Singer and Professor Rob.—I am, etc.,

Edinburgh 3.

SHYAMAL KUMAR SEN.

Operating on the Wrong Limb or Digit

SIR,—Nine instances of operations being performed on the wrong limb or digit in the course of one year is startling news indeed. Dr. P. H. Addison's suggestion (September 10, p. 806) that the digits should be named rather than numbered is one that ought certainly to be adopted in all hand surgery. However, a really fool-proof method is needed in all branches of surgery.

A big cross made with Bonney's blue on the limb, and a smaller cross on the digit, are effective if it is one person's responsibility to make the marks. It should be done by the house-surgeon or the ward sister, but not both. We have found it useful also to make a mark on the side of a knee on which pain is felt, and down the leg which has sciatica before doing a laminectomy. When dealing with young children it is helpful to make the marks with the parents present on the evening before the operation.—I am, etc.,

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London S.W.1.

PETER R. FRENCH.

Sewage in the Sea

SIR,—In South Africa we also have sewage contamination of our coastal waters, and as an underwater diving naturalist I have been observing its effects over many years. In my opinion, the effect on the human being is not so important as the effect on the underwater life.

Physically, I observed, the sewage does not go into infinite dilution but remains as a body or "plume of smoke" underwater for a very long time, and its deposition is usually along the sublittoral zone up to two miles on either side of the sewage point of a 30,000-population group. If there is a storm, then surface drift may deposit pieces of sewage on a beach, but in ordinary weather it stays low down and sinks on to a 50- to 100-yard broad area just outside the low-water ebb line (sublittoral zone). It is common in such a zone to find rockfish with large sores on the side of the body. The reduction in number of rockfish when an area becomes affected is a very prominent feature. The sessile rock and sand population shows evidence of pathology up to two miles from a sewage point. By pathology I mean that sand and rock anemones have part of the body shrunken and necrobiotic while molluscs show a high incidence of hydroids invading their shells. Shells are covered, as are the underwater algae, by a lower-grade filamentous algal growth as well as incrustation by polyzoan and gypsinian colonies. So are the corals. This lime incrustation is only evident in such grand manifestation where the sewage slime is present. The water itself is easily clouded by the thin often mucous slime, which floats upwards when disturbed.

Because practically the whole of the pelagic and carnivorous sea life depends on the essential animalcule plant food-link along the shores, one can well imagine how essential it is to keep the shorelines over the world healthy from contamination of sea life. The direct effect on human beings and the indirect effect on them via the sea food has also not been investigated properly. It is not only a problem for England but it concerns the whole world, and I think should be taken up by a committee of a world body like United Nations.—I am, etc.,

Johannesburg.

P. H. BOSHOFF.

SIR,—May I be permitted to reply to the impassioned appeal of Dr. K. J. Grant (September 3, p. 734) for the right to bathe in sewage-polluted sea water? As the mover of the "considerable alarm" addendum to which he refers, may I invite him to read the relevant part of the report of the proceedings of the Annual Representative Meeting (*Supplement*, June 25, p. 394), where he will note that I said: "No one would persuade the public that bathing in a mixture of sewage and sea water was other than objectionable, and (he) hoped that the report would not be used for the justification or authorization of continued fouling of bathing-beaches with untreated sewage."

Perhaps Dr. Grant will also re-read the "existing scientific evidence" in the report of the committee on bathing-beach contamination.¹ He will then notice admissions such as "Sea water samples as examined in the laboratory may therefore be considered more as washings of polluted material than as fair samples of total quantity of pollution to be assessed." "Lack of a suitable enrichment medium for dysentery bacilli precluded any further work on isolation of these organisms from sea water." "Because of the very large dilution factor, special concentration procedures would probably be required to isolate poliovirus from sea water." "Salmonella isolated from sea water increased with rising coliform counts."

One can derive no satisfactory evidence from the report that health risks due to viral infection from sea water are negligible. Nor do I believe that there would be no outcry if a public bathing-pool was found to have any coliform count at all, let alone 10,000 per 100 ml. of sea water which Dr. Grant is prepared to swallow. One must ask, "How revolting is revolting?" and also, "When does a beach cease

to be *aesthetically very unsatisfactory—with negligible risk to health, and become so fouled as to become aesthetically revolting—with serious risk to health?*"

Dr. Grant has a perfect right, which I respect, to bathe in the emulsion of faecal products which sewage-contaminated sea water around our shores often is, but I will not, nor, I am convinced, should any other responsible practitioner, advise the public that such a procedure carries no risk to health.—I am, etc.,

Bradford.

H. FIDLER.

REFERENCE

- ¹ *Sewage Contamination of Bathing Beaches in England and Wales*, Medical Research Council Memorandum No. 37, 1959. H.M.S.O., London.

SIR,—I fear that Dr. K. J. Grant (September 3, p. 734) has read into my letter (July 30, p. 385) more than it contained. Not for a moment would I dare to throw doubt on the findings of the Medical Research Council's report. I accept the contention that the risk of contracting infection by bathing on most British beaches is, statistically speaking and on the evidence available, very small. What I do not accept is the suggestion that the report makes it possible to be complacent about the whole business of seaside sewage disposal.

In spite of all Dr. Grant has to say, I stand by my contention that lack of evidence *may* be due to the difficulty of gathering it. The history of epidemiology from the earliest times is full of instances. In the present context, perhaps the greatest difficulty is that in most cases of infection following bathing there are several probable or possible source of infection, and only rarely does an organism bear a "trade-mark" which enables one to mark it down to one single source. In the outbreak to which I referred we had the great good fortune to be dealing with such an organism. The occurrence of even a single case of typhoid in someone whose only exposure to infection was during bathing—I apologize for not having specifically mentioned that he ate no cockles—is worthy of note.

That my illustration was drawn from an outbreak of typhoid was fortuitous and perhaps unfortunate, in that it provoked Dr. Grant into a not very relevant digression. How "enormous" in fact is the increase in the pollution of beaches and in sea-bathing? Is it not possible that the yearly number of cases of typhoid might have fallen still lower if there had been less pollution? I agree that the source of infection is "not infrequently" traced by the health departments, but there certainly remain apparently sporadic cases whose source of infection is not traced. Until someone proves that a patient has been infected from some specific source I consider it reasonable and even proper to consider all possible sources, even though some are less probable than others.

"The spread of typhoid by shellfish is not in question," says Dr. Grant. Who said it was? Certainly not I. The point at issue is whether typhoid bacilli or other organisms which are discharged into the sea in untreated sewage can cause illness in human beings. Whether they cause the illness by being swallowed direct or after being concentrated in shellfish or other foods, the fact remains that if they had not been discharged in the sewage the patient would not have ingested them. To imply that because infection of bathers is rare there is no harm in continuing to contaminate shellfish, which present a well-recognized hazard, is a curious kind of logic.

I fear that I am one of those ageing public health doctors who are conditioned to regard dirt as dangerous until it is proved innocent. For reasons for which, no doubt, some Freudian basis could be found, I have a particular prejudice against particles of infected faeces. I am commended when, in my daily work, I discourage food-handlers from spreading such particles on ham sandwiches, farm workers from stirring them into the